

THEMATIC MAPPING IN CASE CONCEPTUALIZATION:  
A TEST OF CLINICAL EFFICACY

A Dissertation

by

CHRISTINA ELIZABETH JEFFREY

Submitted to the Office of Graduate and Professional Studies of  
Texas A&M University  
in partial fulfillment of the requirement for the degree of

DOCTOR OF PHILOSOPHY

Chair of Committee,	Charles R. Ridley
Committee Members,	Timothy R. Elliott
	Steven Woltering
	Robert Heffer
Head of Department,	Shanna Hagan-Burke

December 2017

Major Subject: Counseling Psychology

Copyright 2017 Christina Elizabeth Jeffrey

## ABSTRACT

Case conceptualization is a critical part of mental health treatment, often serving as the preliminary step to treatment planning, psychotherapy, assessment, and diagnosis. However, the field of psychology currently lacks an empirically-supported, standardized method of transdiagnostic and transtheoretical case conceptualization. In addition, there are multiple models of case formulation that are conflicting in definition, contain confusing protocol, lack cultural consideration, or are not applicable for all clinicians. This leaves many psychologists vulnerable to the creation of case conceptualizations that are influenced by common cognitive errors or bias. Thematic Mapping, a novel method of case formulation originated by Dr. Charles Ridley, was created in response to this need for a standardized, culturally-focused model that clinicians of any level of training, theoretical adherence, or expertise may use to facilitate positive therapeutic outcomes.

This dissertation subjects Thematic Mapping to an empirical test by exposing six second-year psychology doctoral students to the model in a 14-hour workshop introduced in varying intervals across six weeks. Students' case formulations and activities related to the Thematic Mapping process were assessed across the workshop for level of complexity, systematic process, thematic goodness-of-fit, and inclusiveness of culturally-sensitive critical client data. Results suggest that Thematic Mapping, as introduced in a workshop format, significantly improves case conceptualizations created by early-career doctoral students in all four aforementioned areas.

## ACKNOWLEDGMENTS

I would first and foremost like to thank my committee chair, Dr. Charles Ridley, for his assistance with and beyond this dissertation. Dr. Ridley has not only been an incredible mentor, research advisor, and teacher, but an individual who has fostered much of my personal growth through empathy, compassion, and dedication. I am perpetually honored and blessed to be his mentee and would not be the person I am today—professionally and personally—without his unwavering intellectual, emotional, and spiritual support throughout my doctoral path.

I would also like to thank my committee members, Dr. Timothy Elliott, Dr. Steven Woltering, and Dr. Robert Heffer, for their guidance and support throughout this course of research. Their generous patience throughout this project has not only aided in its successful completion, but greatly benefitted my physical health and wellbeing. I am grateful for their acumen, time, and expertise in addition to their compassionate acceptance of my personal and professional identity.

Lastly, I would like to thank my mother, Angela Jeffrey, for her support and pride in my academic endeavors, even when she says they sound crazy to her. I also thank my friends, Liliana Gandara, Angel Glover, Janelle Newkirk, and Kevin Tarlow, whose endless guidance and emotional support has resulted in the gift of a family forged through the struggles of academia and reinforced by compassion, empathy, love, unconditional positive regard, and a countless number of tacos.

## CONTRIBUTORS AND FUNDING SOURCES

This work was supervised by a dissertation committee consisting of Drs. Charles Ridley, Timothy Elliott, and Steven Woltering of the Department of Educational Psychology, as well as Dr. Robert Heffer of the Department of Psychology. No external or university funding was provided or utilized in this study.

## TABLE OF CONTENTS

	Page
ABSTRACT .....	ii
ACKNOWLEDGEMENTS .....	iii
CONTRIBUTORS AND FUNDING SOURCES.....	iv
TABLE OF CONTENTS .....	v
LIST OF FIGURES.....	vii
LIST OF TABLES .....	viii
CHAPTER I INTRODUCTION.....	1
Purpose Statement .....	2
Variables .....	4
Research Questions .....	5
CHAPTER II LITERATURE REVIEW.....	7
Lack of Consensus Definition .....	7
Conflicting Models for a Common Problem.....	9
Inaccurate Assumptions of Clinician Judgment Accuracy .....	11
Possible Explanations for the Persisting Problem.....	15
The Case for a Single Evidence-Based Model of Case Conceptualization.....	16
The Fundamental Conceptual Framework of Thematic Mapping .....	18
An Overview of the Process of Thematic Mapping.....	20
Phase I .....	21
Phase II .....	22
Phase III .....	22
Phase IV .....	23
CHAPTER III METHOD.....	24
Participants .....	24
Procedure .....	26
Data Collection via the Four Phases of Thematic Mapping.....	28

Workshop Schedule and Thematic Mapping Units.....	31
Measures .....	54
Case Formulation Content Coding Method .....	54
Content Identification.....	57
Data Analysis .....	58
Establishing Interrater Reliability .....	58
Analysis .....	59
CHAPTER IV RESULTS.....	61
Research Questions Revisited .....	61
Quantitative and Descriptive Results .....	62
CHAPTER V CONCLUSIONS .....	79
Research Findings .....	79
Complexity .....	79
Systematic Process .....	80
Thematic Goodness-of-Fit .....	82
Content Identification .....	82
Interpretation of Findings.....	83
Implications for Future Research and Therapy .....	86
Limitations .....	88
Methodology .....	88
Implementation .....	90
REFERENCES.....	93
APPENDIX A .....	106
APPENDIX B .....	108
APPENDIX C .....	114
APPENDIX D .....	118
APPENDIX E .....	119
APPENDIX F .....	121

## LIST OF FIGURES

FIGURE	Page
1     The three-stage conceptual framework of Thematic Mapping .....	19
2     Four phases of the Thematic Mapping process .....	20
3     Complexity score pre- and post-intervention per participant .....	67
4     Systematic Process score pre- and post-intervention per participant .....	69
5     Thematic Goodness-of-Fit score per participant between first and final attempts at Phases I-III of the Thematic Mapping Process .....	71
6     Total Content Identification per participant between first and final attempts at Phase I of the Thematic Mapping Process .....	74
7     Number of Episode idea units identified per participant between first and final attempts at Phase I of the Thematic Mapping Process .....	75
8     Number of Cultural Characteristic idea units identified per participant between first and final attempts at Phase I of the Thematic Mapping Process .....	77
9     Number of Behavior idea units identified per participant between first and final attempts at Phase I of the Thematic Mapping Process .....	78

## LIST OF TABLES

TABLE		Page
1	Overview of workshop schedule, activities, and objectives.....	52
2	Demographic characteristics of participants .....	64
3	Descriptive statistics for complexity, systematic process, and thematic goodness-of-fit per stage of intervention.....	65
4	Descriptive statistics of content identification idea units per stage of intervention .....	72
5	Difference between score improvements on complexity and systematic process variables .....	81



## CHAPTER I

### INTRODUCTION

Case conceptualization, or case formulation, is a critical foundation for treatment that occurs across multiple health fields. Clinicians often begin this activity by first gathering a wide range of clinical data on their clients, such as history of health problems, symptomology, environmental factors, and interpersonal support. After this step, health practitioners integrate the information into a single client “picture” using research and practical knowledge, from which they select the best diagnosis and subsequent method of treatment (Ridley & Jeffrey, 2017a). Successful case conceptualizations most frequently arise when the process is standardized and holistic. This standardization is a hallmark characteristic of many health practices and is directly resultant of pre-established, objective standards of care (Moffett & Moore, 2011).

Unfortunately, such standards of care and hallmark characteristics do not currently generalize to case conceptualization in the field of mental health. Research on the activity in psychology is characterized by multiple methods of practice that often conflict in protocol, theory, and implementation (Eells, Lombart, Kenjelic, Turner, & Lucas, 2005; Ridley, Jeffrey, & Roberson, 2017a). Clinicians also demonstrate low inter-rater reliability in their case formulations and generally fail to agree on the basic features that define the process (Flitcroft, James, Freeson, & Wood, 2007; Persons, Mooney, & Padesky, 1995; Ridley et al., 2017a). This disagreement and any general insufficiency in case formulation implementation do not tend to improve with time or

training (Spengler et al., 2009; Dudley, Park, James, & Dodgson, 2010). Undoubtedly, this discord on perhaps the most fundamental step in client treatment heightens the chance for poor therapeutic outcomes (Ridley & Jeffrey, 2017a).

Existing methods are often championed by their creators despite lacking empirical support as to the efficacy of the conceptualization protocol in client treatment outcomes or evidence of improvement in case formulation quality in clinicians (Eells, 2009; Johnstone, 2014; Kazdin, 2008). Such behavior is in direct contradiction to the field-wide movement towards evidence-based practice, which is otherwise designed to minimize the gap between mental health and physiological health treatment. Given the current state of case formulation and heightened probability of poor, questionable ethical treatment of mental health problems, a greater focus on empirically-based, holistic case conceptualization in psychology is strongly merited.

### **Purpose Statement**

Research shows that clinicians of all levels of training and expertise can produce poor case conceptualizations and do not typically improve independently with time and practice (Ridley et al., 2017a). A sound case conceptualization is a necessary predecessor to accurate and efficient mental health treatment, and that an incomplete, theory-biased formulation is more likely to lead to poor treatment outcomes. In response to this problem, I proffer a new model of case conceptualization deemed Thematic Mapping, the conceptual framework and process of which I have helped develop alongside Dr. Charles Ridley over the past three-and-a-half years.

Thematic Mapping purports to be transtheoretical, transdiagnostic, systematic,

holistic, and culturally sensitive, created in direct response to the limited availability of non-theory based empirically-supported methods of case conceptualization. While applicable for practitioners of all skill levels, the framework for Thematic Mapping arose most notably after witnessing the struggles experienced in counseling tyros when carrying out case conceptualization in training practicum settings. Thematic Mapping does not purport to be the “best” method of case conceptualization; however, it directly address many of the largest concerns of the process as outlined in scientific literature.

These addressed concerns were most recently featured in a five-article series on Thematic Mapping published as a special series in the *Journal of Clinical Psychology*. The series included an introduction to Thematic Mapping, a critical analysis of the current issues in case formulation, the conceptual framework and process of Thematic Mapping, and a case example in which Thematic Mapping was used with a client (Ridley & Jeffrey, 2017a; Ridley & Jeffrey, 2017b; Ridley, Jeffrey, & Roberson, 2017a; Ridley, Jeffrey, & Roberson, 2017b; Jeffrey & Ridley, 2017). Additionally, a reaction article to the series from Dr. Tracey Eells, a preeminent scholar in case conceptualization, was requested by the authors of Thematic Mapping (Eells, 2017).

At the time these articles were published, Thematic Mapping’s level of contribution to the research base was generally on par with most other proposed methods of case formulation. That is to say, the theory and methodology for the model were established, introduced into a training practicum setting, and demonstrated in a case study; however, its effectiveness in increasing formulation quality and systematic structure was yet to be subject to empirical testing; this was a valued point of feedback

from Dr. Eells (Eells, 2017).

This dissertation aimed to provide empirical support to strengthen the argument for Thematic Mapping as an effective method of case conceptualization. The purpose of this dissertation was to introduce Thematic Mapping via a workshop to a group of doctoral students in psychology, gather empirical data on students' ability to carry out the process, and measure potential changes in students' case formulation complexity, systematic implementation, and identification of meaningful, culturally-inclusive client information.

### **Variables**

The Thematic Mapping Workshop served as the independent variable in this study. There were four dependent variables overall:

- **Complexity:** The degree to which a case formulation contains and integrates multiple facets of the client's problems and functioning.
- **Systematic Process:** The extent to which a case formulation exhibits adherence to a pre-set, *a priori* structure for organizing clinical information. Evidence of a systematic process is suggestive of a standardized approach to case conceptualization.
- **Thematic Goodness-of-Fit:** The degree to which the theme(s) created during Thematic Mapping is consistent with the client data. Support for the theme as outlined in the sub-themes may be used in the scoring of this variable.

- **Content Identification:** The amount of distinct client episodes, cultural considerations, and behaviors that a participant can independently identify and synthesize during the Thematic Mapping process.

### **Research Questions**

The research questions underlying this dissertation were as follows (hypotheses are indicated by bullet points):

- Will psychology trainees who complete the Thematic Mapping Workshop show enhanced complexity in their case formulations?
  - Hypothesis 1: Trainees' case formulations will be more complex at the end of the Thematic Mapping Workshop than ones that they produce at the beginning of the workshop.
- Will psychology trainees who complete the Thematic Mapping Workshop show higher adherence to an *a priori* or systematic approach to case formulation?
  - Hypothesis 2: Trainees' case formulations at the end of the Thematic Mapping Workshop will show stronger evidence that a systematic process was used to complete the conceptualization (i.e., conducted independent of specific client information), than ones that they create at the beginning of the workshop.
- Will psychology trainees' ability to carry out the process of Thematic Mapping improve across the workshop?

- Hypothesis 3(a): Trainees' overall theme(s) of their respective clients will show improved goodness-of-fit to the behaviors, episodes, and culturally-integrated patterns (i.e., "client data") in the process of Thematic Mapping across the workshop.
- Hypothesis 3(b): Trainees will be able to independently identify more client episodes, behaviors, and cultural characteristics in the process of Thematic Mapping across the workshop.

## CHAPTER II

### LITERATURE REVIEW

Case conceptualization is a vital part of health treatment that aims to help a clinician with a multitude of tasks. In mental health treatment, such tasks include observation of psychological diagnosis, synthesis of treatment goals with therapy style, selection of appropriate therapeutic interventions, and the facilitation of a client's achievement of optimal therapeutic gains. However, many methods of psychological case conceptualization arguably serve as obstacles to effective treatment almost as often as they act as an aid to it.

According to Ridley and Jeffrey (2017a), these obstacles manifest in a number of concerns, including unmerited assumptions that clinician judgment and training naturally improve case conceptualization skills. There is also a general lack of a consensus definition on what case conceptualization “should be” and an overwhelming diversity of models that can potentially befuddle even the most experienced clinicians. Existing models and proposed definitions are undeniably earnest in their attempts to aid a clinician in the formulation process; however, these larger, frequently overlooked issues ultimately place case conceptualization in a state of crisis.

#### **Lack of Consensus Definition**

Myriad definitions of case conceptualization are offered across the literature, consequently exposing not a lack of scholarly interest in the activity, but rather a widespread disagreement between research-practitioners upon the basic components of

the process (Bieling & Kuyken, 2003; Flitcroft et al., 2007; Ridley et al., 2017a; Sim, Gwee, & Bateman, 2005). Such definitions range in focus, explicitness, and clarity, with some mandating a client-centered, systematic approach to the process, while others argue for a theoretical basis (Berman, 2015; Clark, 1999; Eells, 2007; Ellis, Hutman, & Deihl, 2013; Lazare, 1976; Sperry, Gudeman, Blackwell, & Faulkner, 1992). This inconsistency in explicitness and structure in definitions ultimately prevents consensus and clarity on the core concept of case conceptualization.

According to Ridley et al. (2017a), existing definitions conflict in the guidance of information gathering that generally occurs at the start of the case formulation process. For example, Lazare (1976) primarily stressed a conceptual approach to client data collection, in which all data gathered during the case formulation is in general pursuit of “making sense” of the client. Eells (2007), on the other hand, argued for a holistic approach and recommended that clinicians gather a broad span of client data for every possible intake category (e.g., family history, health, cultural factors, etc.) before attempting to “make sense” of the case. While neither approach reigns supreme, they both emphasize different angles to information gathering that impacts the method and, potentially, the outcome of the formulation.

Concern for a consensus definition is worsened further when considering that some published definitions of case conceptualization are fundamentally incomplete and exclusive of important client characteristics. This is particularly notable in the area of cultural competency, which is frequently missing from the majority of case formulation definitions (Ellis et al., 2013; Lee & Tracy, 2008; Ridley et al., 2017a). Ridley, Mollen,



and Kelly (2011) also note that many of these definitions are descriptive rather than prescriptive. This is to say that many definitions will tell clinicians that they *should* complete a case formulation, but fail to provide explicit methodology on how to do it (Hallam, 2013; Ridley et al., 2017a). As a result, clinicians are not only exposed to a number of potentially incomplete definitions of case formulation, but are often required to come up with their own protocol as to how to carry the process out.

In sum, the confusion surrounding case formulation is understandable considering the lack of agreement on the definition of the activity, the frequent lack of guidance offered on past said definition, and discord between what types of information should be considered in the formulation process. As alluded to previously, this variability of definition in an activity that ultimately provides the foundation of any mental health treatment inhibits the establishment of a standard care of treatment and, consequently, violates the tenets of evidence-based practice. Ultimately, these problems of a lack of consensus definition on case formulation inhibit the movement towards a higher standard of care in psychological practice (Ridley et al., 2017a).

### **Conflicting Models for a Common Problem**

Along with numerous definitions of case formulation, there are numerous models and protocol. Some of these proposed models provide loose guidelines for implementation, yet others exhibit a strong dependency on a single theoretical orientation for assistance and mandate a strict protocol in carrying out the task (Berman, 2015; Clark, 1999; Ellis et al., 2013). Case formulation models can be categorized into one of three groups: theory-specific, generic, or hybrid (Ridley et al., 2017a; Ridley et

al., 2017b). The largest difference between these types of models is if adherence to a pre-established theoretical orientation is required and, if so, how the constructs of the selected orientation manifest in the proposed case formulation protocol.

According to Ridley et al. (2017a), there are a multitude of theory-based models of case conceptualization rooted in person-centered, cognitive-behavioral, emotion-focused, psychodynamic, eclectic, and dialectical behavior therapy, as well as models that emphasize biopsychosocial relations (e.g., Bruch & Bond, 1998; Campbell & Rohrbaugh, 2006; Guerrero, Hishinuma, Serrano, & Ahmed, 2003; Koerner, 2007; Kuyken, Fothergill, Musa, & Chadwick, 2005; Mace & Binyon, 2005; Markowitz & Swartz, 1997; McClain, O'Sullivan, & Clardy, 2004; McWilliams, 1999; Nezu, Nezu, & Lombardo, 2004; Perry, Cooper, & Michels, 1987; Persons, 2008; Persons & Tompkins, 2007; Riskind & Williams, 1999; Simms, 2011; Sturmey, 2009; Summers, 2003; Tarrier, 2006; Tompkins, 1999; Turkat, 1985; Weerasekera, 1996). Generic models, on the other hand, allow therapists to select the theoretical orientation of their choice at the start of the case conceptualization process; hybrid models allow for the incorporation of any of the aforementioned theories after a preliminary formulation is established (Murdock, 1991; Schwitzer, 1996; Sturmey, 2009). Support for generic and hybrid methods of conceptualization is generally more disseminated across the literature base than the aforementioned theory-based models (Schwitzer, 1996; Sturmey, 2009).

Theory-based methods of case formulation are undoubtedly beneficial to those that already implement the same theory in their therapeutic practice. However, this can be a poor fit for clinicians who do not identify with or are not trained in the theory at

hand. Similarly, such models may be overwhelming for therapy tyros who have yet to identify with a theoretical orientation or fully understand how to integrate theory and practice. The wide variety of theory, generic, and hybrid models also makes it difficult to discern what methods clinicians are using in their conceptualizations (Eells et al., 2005; Lee & Tracey, 2008). Such ambiguous approaches hinder standardization efforts and, perhaps expectedly, contribute to poor inter-rater reliability on case formulations (Persons et al., 1995)

The most troubling issue underlying this multitude of models, however, is the predominant lack of empirical support for their accuracy and effectiveness. Eells (2009) criticized this fact by stating "...it appears that developers of case formulation tend not to view them as psychometric tools subject to the same statistical criteria that other psychometric tools are held to" (p. 294). This sentiment has been echoed by numerous researchers who emphasize that case formulation should operate from a statistical design or, at the least, evidence sufficient validity and reliability (Grove et al., 2000; Kazdin, 2008; Meehl, 1954; Ridley et al., 2017a). Unfortunately, the progenitors of the majority of these models have yet to subject their models to empirical investigation.

### **Inaccurate Assumptions of Clinician Judgment Accuracy**

It is easy to presume that clinicians would adopt a superior aptitude of discernment in case formulation across their education, especially as many other aspects of clinical work strengthen with supervision and practice. Similarly, the assumption that an experienced clinician would possess more accurate clinical judgment than a student at the start of their training program is often left unchallenged. According to Spengler et

al. (2009), this is due to a field-wide adherence to a developmental model that assumes clinician expertise improves across various stages of training and experience, with the most developed clinicians ideally possessing the greatest clinical judgment. However, research suggests that neither the extent of training or level of expertise significantly improves clinician accuracy (Lichtenberg, 1997; Pilipis, 2010; Spengler et al., 2009). This has led numerous researchers to eschew any notion that expertise and education are indicators of superior, or even sufficient, clinical judgment (Lichtenberg 1997, Ridley et al., 2017a).

Spengler et al. (2009) specifically targeted this presumption of the relationship between experience, training, and clinical judgment by conducting a meta-analysis of 75 studies occurring from 1970 to 1997 that examined psychologist decision-making accuracy. Measuring a total of 4,607 mental health professionals of all levels of education and expertise, Spengler et al. (2009) found that accuracy in clinical judgment only increased by 13% across training. When solely comparing the difference of clinician judgment accuracy in relation to amount of professional practice, experienced clinicians were only 10% more accurate in their diagnoses and case conceptualizations than novice practitioners. Based on the study's resulting effect size, Spengler et al. (2009) stated that novice clinicians were expected to make accurate treatment decisions 47% of the time, while expert clinicians were expected to be clinically accurate 53% of the time.

As a follow-up, Pilipis (2010) conducted a meta-analysis on clinician judgment accuracy on studies published between 1997 and 2010, essentially including all new

studies on clinician judgment after the window of time Spengler et al. (2009) initially examined. Pilipis' (2010) results were nearly identical to those provided by Spengler et al. (2009), reporting that clinical training only improved accuracy of clinical judgment by 16%. This may imply that any new methods introduced to improve the exactitude of clinical decision-making and client conceptualization after 1997 have not been significantly effective.

Other studies confirm the findings on training and experience offered by Spengler et al. (2009) and Pilipis (2010), with many suggesting that active practitioners, doctoral-level psychologists, and board-certified psychologists are oftentimes on par or worse than first year doctoral participants, novice clinicians, and non-board certified psychologists in their case conceptualizations (Dudley, et al., 2010; Garb & Schramke, 1996; Witteman et al., 2012). One sample of Master's level practitioners were found to be markedly worse than Master's level students at making differential diagnoses (Witteman et al., 2012). Similarly, a group of Master's level students in psychology (i.e., counselors, marriage and family therapists) made fewer correct clinical judgments of high-risk clients and related legal protocol than non-mental health professionals (Belter, Duer, & Stanny, 1999; Stanny, Belter, & Duer, 1999).

One study by Eells et al. (2005) specifically explored the relationship between level of expertise/experience and case formulation quality. Results showed that clinicians who possess an expertise in the area of case formulation (evidenced by either developing a model of case formulation, hosting at least one case formulation workshop, and/or contributing substantial scientific literature on case formulation) exhibited

superior case conceptualization skills than novice clinicians (i.e., graduate students with less than 1,500 hours of supervised clinical training) and experienced clinicians (i.e., therapists practicing for ten years or more). Surprisingly, experienced therapists, produced poorer case formulations than novice therapists. This finding echoes the consensus that experience alone is not an adequate indicator of superior case formulation skills.

There is also evidence that inaccurate clinical judgment occurs regardless of the type of training. Focusing on the accuracy of clinician decision-making regarding involuntary commitment, Belter et al. (1999) discovered that psychologists, psychiatrists, mental health counselors, marriage and family therapists, psychiatric nurses and clinical social workers were all relatively similar in the frequency in which they correctly indicated when an involuntary mental health evaluation was needed. This frequency of accurate clinical judgment occurred only 72% of the time amongst clinicians who possessed the highest level of academic training and legal responsibility (Belter et al., 1999, Ridley et al., 2017a).

More alarmingly, empowered mental health professionals (i.e., clinical psychologists, psychiatric nurses, and clinical social workers who possess the legal authority to initiate an involuntary commitment examination) were only 5% more accurate in deciding to commit a patient than engineers (Belter et al., 1999). Belter et al. (1999) note that this lack of clinical significance between mental health and non-mental health fields implies that “formal clinical training in mental health does not lead to substantially greater proficiency of judgment” (p. 37).

## **Possible Explanations for the Persisting Problem**

Based on these concerning results, it is reasonable to hypothesize that it is the quality of training that is at root of the poor improvement in clinician judgment. Numerous studies provide support for this point, with many emphasizing that case conceptualization is generally under-taught in training settings (Ben-Aron & McCormick, 1980; Fleming & Patterson, 1993; Perry et al., 1987; Sim et al., 2005). According to one survey gathered from 57 independent psychiatric centers, 80% of trainees believed case formulation was insufficiently stressed during their residency (Ben-Aron & McCormick, 1980; Sim et al., 2005). Sim et al. (2005) note that this lackluster training may be due to erroneous assumptions that written conceptualizations are unnecessary or that full case formulations should only be considered mandatory for long-term cases.

Practitioners of all skill levels are also vulnerable to a multitude of judgmental and inferential errors in their case conceptualizations (Lichtenberg, 19997). These errors are most succinctly defined as cognitive shortcuts unconsciously created to reduce psychological demands that every clinician experiences during their decision-making process (Falvey, Bray, & Hebert, 2005; Garb & Schramke, 1996; Moore, Smith, & Gonzalez, 1997; Ridley et al., 2017a). Falvey et al. (2005) further explain these errors as necessary mental heuristics that reduce complex problems and manage large amounts of information in order to facilitate faster judgments. Given the exorbitant demands of many clinical practices (i.e., heavy caseloads, complex clients, small window of time for diagnosis in order to meet demands from insurance agencies) such quick judgments

often near-impossible to avoid (Dougherty, 2005; Ridley et al., 2017a).

While these “mental shortcuts” manage large amounts of information, they are also highly error-prone and inevitably result in incorrect conclusions or assumptions of a client. These errors can occur throughout treatment, but are of particular concern after a large amount of client data is collected and assimilated into a case formulation. A handful of these errors include availability heuristics, content dependence, fundamental attribution error, illusory correlation, overconfidence, and primacy effects (Blavatsky & Hordijk, 2003; Carroll, 1978; Fiedler, 1996; Kruglanski & Freund, 1983; Moore & Healy, 2008; Tetlock, 1985). A list of some of these common judgmental and inferential errors is provided in Appendix A.

Similar to the problems regarding poor clinician judgment, research shows that experienced counselors are subject to the same judgmental and inferential biases as novice trainees (Lichtenberg, 1997). This suggests that the perpetuation of cognitive errors does not automatically extinguish with time and practice. As a result, a solid foundation in a case formulation process that raises awareness to the potential presence of judgmental and inferential errors is inarguably and urgently necessary.

### **The Case for a Single Evidence-Based Model of Case Conceptualization**

The current lack of explicit guidance in case conceptualization provided by insufficient training and conflicting definitions ultimately forces clinicians to frequently rely upon their own methods and self-selected models of conceptualization. These models allow for a varying degree of clinician judgment in interpretation and application. As a result, case conceptualization continues to be characterized by poor



standardization in practice.

The variability in theory and implementation of current case formulation models also often fails to draw necessary attention to the judgmental and inferential biases that inherently pop up in diagnosis and treatment. This latter concern may be one of the factors at root for why clinician experience is not shown to significantly improve clinical judgment. This undoubtedly hinders the establishment of a high standard of care in the field of psychology and potentially raises a question as to the ethics underlying current therapeutic treatment modalities.

The solution for this crisis is rooted in reaching a basic agreement in the field for what the activity “should be,” deepening the empirical research on existing models, and reaching an established standard of care on par with that offered by other health sciences. Eells (2009) emphasized the simple importance of understanding the extent that clinicians could agree on case formulations, how well they “fit” the client, and if their they were, in fact, “measuring what [they] intended to measure” (p. 294). Given this dearth of empirical support, finding evidence that a case formulation exhibits basic reliability and validity would currently be enough to set it apart in the field of psychological treatment (Kazdin, 2008).

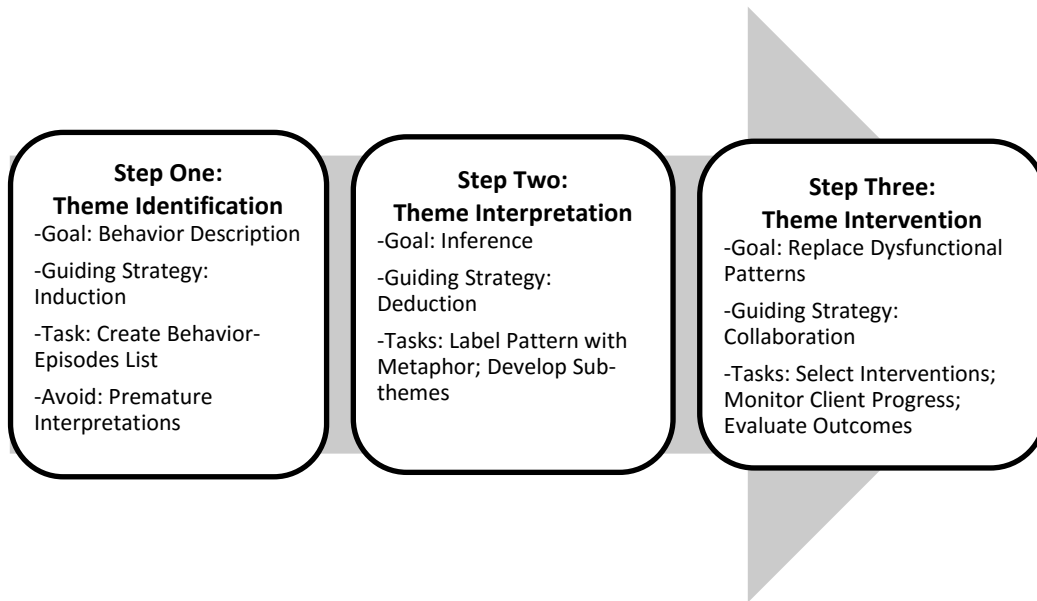
In addition to empirical testing, Fauth, Gates, Vinca, Boles, and Hayes (2007), as well as Ridley et al. (2017a), argued that establishing a standard model or set of models of case formulation would greatly improve on the tendency of clinicians defaulting to cognitive errors. Falvey et al. (2005) also emphasized that shared guidelines would decrease reliance upon memory and subsequent subjective judgment. These guidelines

would ideally be characterized by standardized or systematic protocol that every clinician could easily apply to treatment regardless as to the type or severity of the presenting problem (Falvey et al., 2005; Ridley et al., 2017a; Ridley & Jeffrey, 2017b).

This call for a consensus has been matched with a desire for increased reliance upon statistically sound case formulation protocol. Such a protocol would ideally minimize the opportunity for error in clinical decision-making to the lowest possible degree (Ægisdóttir et al., 2006; Meehl, 1954). Overall, a case formulation model that deepens complexity, encourages standardized protocol, facilitates agreement between practitioners, minimizes opportunity for error, and exhibits sound empirical support would serve as a direct a response to this crisis.

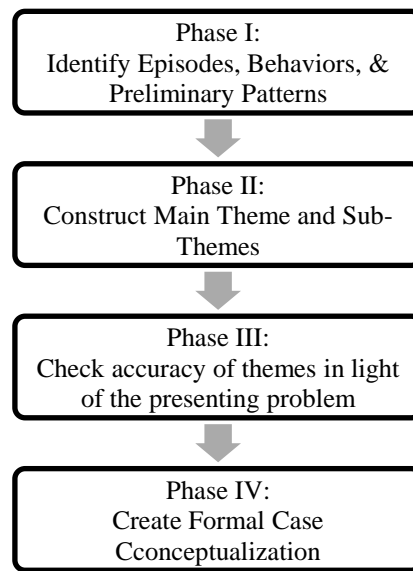
### **The Fundamental Conceptual Framework of Thematic Mapping**

The conceptual framework for Thematic Mapping may be described as three-stage model that is transtheoretical in nature, process-oriented, client-specific, focuses on content beyond the client's presenting problem, acts as an adjunct to clinical diagnoses, stresses cultural sensitivity, and is systematic in implementation (Ridley & Jeffrey, 2017a; Ridley & Jeffrey, 2017b; Ridley et al., 2017b). Figure 1 outlines this conceptual framework and each stage's respective characteristics (Ridley et al., 2017b). The basic method of Thematic Mapping involves taking a thorough examination and incorporation of client data into the case formulation without selecting a theoretical orientation or intervention plan prior to the formulation. Following this process, the clinician deduces the client data and synthesizes it into a metaphor, or "theme." After the creation of a theme, sub-themes are created to better describe the client and facilitate a treatment plan.



**Figure 1.** The three-stage conceptual framework of Thematic Mapping

This pursuit of a client “theme” ultimately serves as the structure for the conceptual framework. That is, in Thematic Mapping, clinicians first pursue information and use inductive reasoning to gather sufficient client data to arrive at a theme (i.e., Theme Identification). Next, clinicians use deductive reasoning to interpret their theme and ensure sufficient support in light of the collected client data (i.e., Theme Interpretation). Lastly, clinicians use the theme as a case formulation intervention that is guided by continual client collaboration (i.e., Theme Intervention).



**Figure 2.** Four Phases of the Thematic Mapping process.

### **An Overview of the Process of Thematic Mapping**

Ridley and Jeffrey (2017b) provide a more thorough explanation of the framework of Thematic Mapping in the third article of their Thematic Mapping series, *The Conceptual Framework of Thematic Mapping*. The methodology and implementation of Thematic Mapping is fully described in *The Process of Thematic Mapping in Case Conceptualization* (Ridley et al., 2017b) and *A Case Conceptualization Using Thematic Mapping* (Jeffrey & Ridley, 2017). However, the basic process of Thematic Mapping as adapted for a workshop can be broken down into four phases (refer to Figure 2). Each phase is elaborated upon below. An example of the four phases based using a real client (deidentified) is provided in Appendix B, which presents

the process slightly in reverse by presenting Phase IV (the final case conceptualization) before Phases I-III.

## **Phase I**

The first phase of Thematic Mapping is characterized by the identification of cultural characteristics, behaviors, salient life events (or “episodes”), and preliminary patterns. More specifically, it involves the creation and modification of a “Behavior-Episodes List.” Ridley et al. (2017b) describe this list as a written activity created at the start of the Thematic Mapping process in order to optimally organize client data and assist in the creation of themes:

The Behavior-Episodes List identifies the events across time, persons, and situations in which the target behaviors occur. In Thematic Mapping, these events are labeled as “episodes.” As the data collection process continues, these behaviors are examined in juxtaposition to reported episodes. The creation of this Behavior-Episodes List can begin as early as the first session with the client, although clinicians should continue to build on it throughout the case formulation process... Once clinicians have created a detailed and meaningful list, they may begin to critically search for patterns in the behavior descriptions. In the process, clinicians must look beyond the *content* of the behavior descriptions to the find the common *function*, or purpose, in the various behavior descriptions. (p. 297)

According to Ridley et al. (2017b), a Behavior-Episodes List can be comprised of roughly 15 to 20 behavior-episodes, depending upon the client’s willingness to disclose and the clinician’s perspicacity in identifying important information.

## **Phase II**

Phase II of Thematic Mapping involves the selection of an overarching theme or metaphor that characterizes the client and their presenting problem. According to Ridley et al. (2017b), this step can occur once a clear pattern can be deduced from the preliminary activities and is designed to provide a wholly representative label to a client:

Metaphors should be used judiciously, creatively, and accurately. The rule of thumb here is goodness of fit with the identified pattern. To begin this process, therapists should envision the clients' behavior pattern, attach verbs that describe the action, and then link the metaphor to the behaviors' consequences. As another rule, clinicians must be willing to approach case conceptualization outside the realm of traditional diagnostic nomenclature and technical terminology. (p. 401)

Thematic Mapping mandates that practitioners identify up to three sub-themes that "...often emanate from and support the major theme" while adding depth and complexity to the case formulation (Ridley et al., 2017b, p. 401).

## **Phase III**

This phase ensures that a concluding theme and sub-themes fit with the client's presenting complaint and goals for treatment. This phase may also include challenging the soundness of identified themes and sub-themes by ensuring enough client data has been collected to support final conclusions. The final step in this phase may include forming a treatment plan along with collaborative input from the client.

#### **Phase IV**

Phase IV involves the integration of the three previous phases of the Thematic Mapping Workshop into a formal, written case formulation. Given the detail demanded in previous stages, much of the core case formulation is composed by integrating information gathered during the three previous phases into one document. Continued review for possible areas of bias or lack of sufficient evidence in the case formulation is conducted acts as a final step in this phase.

## CHAPTER III

### METHOD

To test the clinical efficacy of Thematic Mapping, an expedited instruction of the model was introduced as a workshop and presented in a systematic format across six weeks for practitioners early in their doctoral-level training (Refer to Table 1). Case formulations and activities pertaining to Thematic Mapping were gathered during and after the workshop from participants in order to provide final measurements on the following four variables: Complexity, Systematic Process, Thematic Goodness-of-Fit, and Content Identification.

#### **Participants**

Inclusion criteria for participation were as follows: (a) participants must be enrolled as a student in a graduate psychology program at Texas A&M during the time of the study; (b) participants must have completed at least one training practicum and conducted therapy with at least one client while a student at Texas A&M University; (c) participants must have completed at least one formal case conceptualization in the past and possess sufficient working knowledge of the activity; and (d) participants must be able to attend the full duration of the Thematic Mapping Workshop; if a participant must miss a portion of the workshop due to extenuating circumstances, the participant must be willing to attain the information through one-on-one instruction with the lecturer at a later date. Due to the fact that a general understanding of case conceptualization and application to real clients was necessary for the workshop, participants who had yet to



enter into a formal training practicum were excluded from participation.

Following approval by the Institutional Review Board (IRB) Human Subjects Protection Program at Texas A&M University (TAMU), six doctoral students from the TAMU Counseling Psychology Program consented to the study in the Summer I Semester of 2016. Of the six participants, five identified as female (83.33%) and one identified as male (16.67%). Participants identified their race/ethnicities as Asian ( $n = 2$ ; 33.35%), South Asian ( $n = 1$ ; 16.67%), Hispanic ( $n = 1$ ; 16.67%), Black/African American ( $n = 1$ ; 16.67%), and White/Caucasian ( $n = 1$ ; 16.67%).

All participants were entering their second year of doctoral training in the field of counseling psychology and beginning their second semester of providing psychotherapy. Prior to the workshop, three participants had successfully attained Bachelor's degrees (50%), while the other three participants had attained Master's degrees (50%). Prior degrees attained per participant are as follows: Psychology ( $n = 4$ , 66.67%), Prevention Science ( $n = 1$ ; 16.17%), Child Development ( $n = 1$ ; 16.67%). A breakdown of the descriptive characteristics for each participant is provided on Table 2 in the subsequent chapter.

Participants were provided the following incentives for participation: (a) Every hour of workshop participation may be recorded as APPIC-approved "Group Supervision by a Licensed Psychologist" clinical hours, provided by Dr. Ridley (approximately 14-17 hours in sum); (b) Participants may list completion of the Thematic Mapping Workshop under "Additional Clinical Training" on Curriculum Vitae; and (c) Each participant will receive \$50.00 after completion of all workshop-

related activities. These incentives were provided to recognize the understandable difficulties and pressures doctoral participants often face due to hectic schedules, academic demands, and intensive clinical training.

### **Procedure**

Recruitment efforts began via outreach to students completing supervised clinical work at the TAMU Counseling and Assessment Clinic (CAC) in Bryan, Texas. The CAC is a community mental health clinic that provides individual, couples, and group therapy across all age groups for an income-based, sliding-scale fee; individuals who seek mental health services at the CAC often present with problems related to coping with chronic pain, adjustment disorder, and/or severe and persisting mental illness (e.g., depression, chronic anxiety, trauma-related disorders, etc.). Counselors at the CAC are generally early-career graduate students of the TAMU Counseling Psychology or School Psychology Programs. The six counseling psychology doctoral students recruited to the study were each in the process of completing a counseling practicum (CPSY 683: Field Practicum) at the CAC under the supervision of Dr. Ridley.

Participants were informed that the purpose of the study was to explore the instructional effectiveness of a workshop on case conceptualization. They were provided consent forms with the opportunity to ask questions about the nature of the study. Consented participants were each provided a copy of their signed consent form, along with binders in order to help participants preserve handouts and activities that they would complete across the workshop. Participants were reassured that their involvement in any activities related to the workshop would have no impact on their grade for their

course (CPSY 683). Participants were also informed that they could withdraw from the study at any point without penalty.

Following the consenting process of the six participants, consultation on scheduling time for the workshop commenced. Due to feasibility issues (i.e., limited extracurricular time, difficulty aligning schedules), the Thematic Mapping Workshop was broken down into nine units and integrated into the participants' weekly group supervision time at the CAC, supervised by Dr. Ridley. This group supervision time was scheduled for three hours in duration, occurring every Tuesday of the week from 3:00pm-6:00pm. Of this time period, Thematic Mapping didactic instruction and related workshop activities were limited to roughly an hour-and-a-half to two hours of this time before attention was turned to case presentations and/or clinical supervision. In the later weeks of the workshop, the Thematic Mapping process was incorporated into several of these case presentations and opportunities for group consultation on various clients.

Participants reviewed a rough schedule of the workshop with a caveat that listed activities may change given the overall progress made during the workshop. Based on scheduling, it was decided that the Thematic Mapping Workshop would commence over a consecutive six-week period beginning in the last week of May 2016 and concluding in the first week of July 2016. One final meeting dedicated solely to data collection for the study was scheduled for the subsequent week (i.e., the second week of July 2016).

The workshop occurred in a designated group supervision room in the CAC; this room included table space and chairs for eight people, access to one computer, a large television screen with equipment to connect to a laptop computer, large white board,

space for two people to engage in role playing exercises, and a one-way mirror into a neighboring group supervision room that remained covered with blinds throughout the workshop.

### **Data Collection via the Four Phases of Thematic Mapping**

As mentioned previously, the conceptual framework and four phases of Thematic Mapping (refer to Figure 2) were broken into nine units and interspaced across the workshop to provide ample training for each phase. Participants' work on these four phases at varying points in the workshop (described in the subsequent section) largely served as data used in the final study analyses. A sample of the worksheets used by participants to carry out Phases I-III is featured on Appendix C.

**Phase I.** The first phase of the Thematic Mapping process, as described previously, regards the collection of client data, including cultural traits, episodes, and behaviors. In the Thematic Mapping Workshop, this was divided into two three-step processes, the first of which involved: (1) recording cultural traits (i.e., "Client Cultural Characteristics"), (2) noting the client's initial complaints, and (3) identifying possible premature presumptions.

This activity was designed to assist participants in creating case formulations firmly rooted in clients' cultural identities, to ensure that the presenting problem is heard, and to raise clinicians' awareness to any possible conclusions they may have jumped to prior to engaging in the formal case conceptualization process. As demonstrated on Appendix C, each of these three steps was listed in individual columns on one landscape-style Microsoft Word© document; participants were asked to number

each independent, unique thought that pertained to each of these categories in the row below each column. These independent thoughts can also be defined as “idea units,” or the written expression of one complete thought (Eells, Kendjelic, Lucas, & Lombart, n. d.; Stinson, Milbrath, Reidboard, & Bucci, 1994).

The second three-step process occurred directly after completion of the first and is comprised of three columns: “Notable Life Episodes,” “Notable Behaviors,” and “Basic Patterns/Themes.” These three steps are also listed in individual columns on one landscape-style Microsoft Word© document. Participants were asked again to identify unique, non-repetitive idea units that pertained to the respective categories in the row below each column.

As noted previously, “Notable Life Episodes” refers to salient life events that a client deems important or influential; some of these episodes might include relocation to a new country at a young age, divorce, or sexual assault. “Notable Behaviors” includes any recurring or significant behaviors that the client acknowledges or exhibits across their lifespan, such as chronic avoidance of responsibilities, quick temperament, or recurring engagement in abusive relationships. “Basic Patterns/Themes” provides clinicians with an opportunity to begin to theorize how behavior patterns and life episodes may be related. For example, one participant in the study drew ties between a male client’s past history of abuse and abandonment by male figures in his childhood to the client’s difficulty keeping stable, trustworthy relationships with other men. Participants were challenged to incorporate client cultural characteristics outlined on the first handout into this column.

The total amount of non-repetitive, correctly-identified, and clear idea units listed in the “Client Cultural Characteristics,” “Notable Life Episodes,” and “Notable Behaviors” columns served as data for measurement of participants’ Content Identification variable. Specifically, participants’ first independent attempt to complete Phase I of Thematic Mapping (occurring on Day 2) was compared to one of their final attempts at completing Phase I of Thematic Mapping (Post-workshop). This is further elaborated in the Measures section of this chapter.

**Phase II.** In order to complete this phase (i.e., the creation of a theme and sub-themes), participants were provided a subsequent landscape-style Microsoft Word© document that allowed them to record their self-identified theme and sub-themes for their client of focus. Participants were asked to include support for their themes and sub-themes from previously identified behaviors, episodes, preliminary patterns, and cultural characteristics. This activity provided data for the Thematic Goodness-of-Fit variable as participants’ first independent attempt to complete Phase II of Thematic Mapping (completed on Day 2) was compared to one of their final post-workshop Phase II attempts. This is also further elaborated upon in the Measures section of this chapter.

**Phase III.** The third phase of Thematic Mapping was accomplished by one final landscape-oriented Microsoft Word© document that required participants to verify the soundness of themes by examining how well the theme fits with the hypothesized causes and consequences of the client’s behavior patterns. In addition, participants are asked to describe how they believe their theme fits with the client’s complaint. Information from this worksheet was used as additional support for each participant’s aforementioned

Thematic Goodness-of-Fit variable.

**Phase IV.** Participants' attempt at the final phase of Thematic Mapping (i.e., independently creating a formal case conceptualization following completion of Phases I-III) occurred solely after the workshop concluded. At this time, participants were required to write two case formulations via the Thematic Mapping process. These two final case formulations were compared to two different case conceptualizations that participants wrote on the first day of the workshop before being exposed to the Thematic Mapping-intervention. From these activities, the Complexity and Systematic Process variables were assessed. This is expanded upon in the Measures section of this chapter.

### **Workshop Schedule and Thematic Mapping Units**

The Thematic Mapping Workshop was comprised of four main activities: didactic instruction, demonstration, group activities, and individual activities. Additionally, participants were often asked to read assigned articles or complete activities individually outside of the workshop. The nine units of the Thematic Mapping Workshop were as follows: (1) Overview of Case Conceptualization in Psychology, (2) Introduction to Thematic Mapping, (3) The Process of Thematic Mapping, (4) Implementation of Thematic Mapping into Practice, (5) Themes, Theory, and Metaphors (6) Creating Behavior-Episodes Lists, (7) De-bias: Challenging the Soundness of Themes, (8) Attuning to Culture, and (9) Synthesizing Thematic Mapping into a Formal Case Conceptualization.

The instructional portion of the workshop lasted approximately 14 hours in duration across the six-week time frame, excluding the final activities that participants

completed the week after the workshop concluded. The following section describes the workshop units, activities, and events across in detail; an abbreviated description of the workshop schedule and units is represented in Table 1.

**Day One: Units One and Two.** After completing the consenting process, participants reviewed a book chapter—*Critical Thinking Skills: Diagnosis, Case Conceptualization, and Treatment Planning* (Schwitzer & Rubin, 2015)—on case formulation, which lasted approximately 10 minutes. The workshop subsequently commenced with “Unit One: Overview of Case Conceptualization in Psychology.” I began this Unit with a 50-minute didactic presentation and group discussion on case conceptualization as a clinical activity with assistance from a prepared Microsoft PowerPoint© presentation. This purpose of this presentation was to ensure that each participant had a firm comprehension of what case conceptualization was before being asked to independently produce two formulations for data collection purposes. A hard copy of this presentation was provided to the participants in their binders to follow along with and/or take notes.

In the presentation, four key questions were presented: (1) What is case conceptualization; (2) Why is case conceptualization important; (3) What are the general types of case conceptualization; and (4) What’s included in a case conceptualization. Participants were encouraged to first provide their own “conceptualizations of case conceptualization” and any personal opinions or experiences they had with it. Following this brief discussion, I introduced two definitions of case formulation from Berman (2015), who states “...a clear, theoretical explanation for *what the client is like* as well as



theoretical hypotheses for *why the client is like this*” (p. xi) ” and Eells (2007):

A psychotherapy case formulation is a hypothesis about the causes, precipitants, and maintaining influences of a person’s psychological, interpersonal, and behavioral problems. A case formulation helps organize information about a person, particularly when that information contains contradictions or inconsistencies in behavior, emotion, and thought content...A case formulation also serves as a blueprint guiding treatment and as a marker for change. (p. 4)

I presented five reasons why case conceptualization is important: (1) It is an Core Competency set forth by the American Psychological Association (2006); (2) It can act as a replacement for diagnosis; (3) It likely improves treatment and minimizes the chance for clinical errors (versus a clinician attempting therapy with no case conceptualization); (4) It allows for greater opportunities for cultural consideration in treatment; and (5) It is closer to a standard of care similar to other health practices.

After discussing these five points and proffering several examples from when case conceptualization benefited my own clinical work, the group also volunteered that case conceptualization was important because it could improve the therapeutic alliance with the client. Specifically, we collectively hypothesized that a clinician who uses case conceptualization would be more likely to “see and hear” the “real” client and their presenting concerns, as such an activity would mandate critical thinking about the specific client.

While there are multiple types of case conceptualization, I introduced four specific categories. This included highlighting case formulation models that are (1)

theory-based, generic, or hybrid; (2) client-centered or problem-centered; (3) diagnosis-specific versus transdiagnostic; and (4) treated as events versus processes (British Psychological Society Division of Clinical Psychology, 2011). The participants were given opportunities to provide reactions, thoughts, and questions to each kind of model.

Lastly, I provided participants with an overview as to what may be included in a case conceptualization. I highlighted that some case formulation approaches instruct clinicians to only include data that “makes sense” of the presenting concern, while others argue for holistic data integration. We then discussed and identified several important common considerations in a case formulation: presenting problem, history/background, relationships, current life stressors, co-morbid illnesses, cultural backgrounds, and existing coping strategies.

Following this presentation, the participants were provided with a basket of colored pencils and a cartoon drawing of a clinician stick-figure sitting across from a client stick-figure. They were then asked to “Draw what therapy looks like when a therapist does not use a case conceptualization when treating a client or conceptualizes a client poorly.” Participants were given 10 minutes to complete this activity, after which they took a 10-minute break. Following the respite, the participants and I presented our pictures to each other, one at a time, and explained what our pictures represented.

Each participant’s drawings were unique to them and reflected a personal understanding of case conceptualization as a clinical activity, particularly by illustrating what can occur in the therapeutic process when a case formulation is not present. Some inferences that the participants presented included that (a) the client might not be heard

by the clinician, (b) the clinician might only listen to one part of the client's problems, and (c) the clinician might become "lost" in the therapeutic process and become incapable of helping the client. Several participants mentioned that their drawings also represented feelings (ex. self-doubt, apprehension, confusion, "drowning") that they experienced in their own clinical work when they didn't have a clear conceptualization of their client. This discussion lasted for approximately 10 minutes.

After this exercise, the cohort was asked to describe in their own words "What is Case Conceptualization?" on the same document as their drawing. Each participant volunteered a different characteristic of the construct, collectively defining case conceptualization as:

*A holistic approach to understanding a client; it is carried out in attempt to understand them, the issues they're having, guide the clinician in finding the best way to help them. It involves making sense of the client information and integrating it in a genuine manner. It's like a road map or guide that can help you come up with a diagnosis, or plan a treatment outside of diagnosis.*

Following this final group activity, it appeared that each student possessed a sufficient understanding of the nature of case conceptualization and what it would typically be comprised of. They were then asked to independently produce two case conceptualizations on their laptop computers of two different, deidentified clients that they had seen at least two times.

Participants were informed that the activity was not time-limited nor that there was a word length requirement, as long as whatever formulations they produced felt

complete to them. The group's collective definition of case conceptualization remained written on a white board in the room from which they could use as a reference during the activity. Dr. Ridley and I removed ourselves from the room while this took place. All participants completed their two case formulations within 25 minutes. Final conceptualizations were transferred to a USB drive and deidentified using a numeric code. This concluded Unit One, which resulted in the initial case conceptualizations that, as noted previously, would be used to score the Complexity and Systematic Process variables at the end of the workshop.

After this activity, I introduced "Unit Two: Introduction to Thematic Mapping" through a second Microsoft PowerPoint© presentation that lasted roughly 20 minutes in duration. The presentation specifically introduced the basic traits of Thematic Mapping as a form of case conceptualization that would serve as the focus of the remainder of the workshop. Participants were also provided a copy of this presentation as a handout in their binders. Specifically, this presentation highlighted the basic "type" of case conceptualization that Thematic Mapping was in light of the "types" of case formulation introduced in the previous presentation. That is, that Thematic Mapping is a holistic, transtheoretical, client-centered, transdiagnostic, culturally-attuned method of case formulation that is viewed as a process.

I also explained in this didactic that case conceptualization through Thematic Mapping was largely defined through identification of client behaviors, important life episodes, and recurring patterns. Following this brief overview, the class collectively completed a seven-question, multiple-choice quiz on the basic traits of Thematic

Mapping. Each question was answered correctly on the first try and a brief discussion was held after each question to specifically underscore *why* the selected answer was right. This quiz and group discussion lasted approximately seven minutes in totality.

This quiz marked the final activity of the first day of training. Participants were given two articles to read before the next meeting, *Case Formulation in Psychotherapy: Revitalizing its Usefulness as a Clinical Tool* (Sim, Gwee, & Bateman, 2005) and *The Conceptual Framework of Thematic Mapping in Case Conceptualization* (Ridley & Jeffrey, 2017b). Participants were asked to notify Dr. Ridley via e-mail once they finished reading the assigned articles.

**Day Two: Units Three and Four.** Participants began the workshop by reviewing the topics and activities planned for the day. I then introduced “Unit Three: The Process of Thematic Mapping” through a 30-minute didactic presentation on the four phases of Thematic Mapping, aided by a pre-prepared Microsoft PowerPoint® presentation. I provided a handout of the presentation to the participants beforehand, along with a blank worksheet of the four phases of Thematic Mapping (Appendix C). The presentation detailed the fundamental steps of the Thematic Mapping process as outlined on Figure 2.

Following this presentation, participants watched a three-minute clip from the movie, *Tyler Perry’s Madea Goes to Jail*, which illustrated a heated interaction between the film’s titular character, Madea, and pop psychologist, Dr. Phil. After the clip, the students were each given a blank worksheet asking the following: (1) What questions they would’ve asked Madea to get more information about her psychological

presentation (i.e., the client's holistic self-experience), and (2) What kind of information they believed they would get with their questions and how this would fit with Thematic Mapping. This group activity, which lasted approximately 45 minutes in duration, was designed to introduce students to thinking about the kinds of questions that elicit behavior descriptions from clients in order to enhance the Thematic Mapping process.

Following this activity, participants were introduced to "Unit Four: Implementation of Thematic Mapping into Practice" through a demonstration of the full Thematic Mapping process with one of my deidentified clients labeled as "Jane" (Appendix B). To do this, I first presented participants with the client's final case conceptualization, roughly a page in length, which the students were given time to read individually. Then, I showed participants how I arrived at the final conceptualization using the first three Thematic Mapping phases, lasting approximately 20 minutes. After explaining each part in detail, participants were asked to carry out the first three phases of Thematic Mapping with one of their existing clients, with the option of using a client that they wrote a case formulation for during the previous class.

Participants were not given a time limit in completing their first attempt of these phases of Thematic Mapping independently. Four participants finished within thirty minutes, one participant finished within 55 minutes, and one participant worked on the activity for ten minutes before departing to see a client for an individual therapy session. The latter participant resumed the activity following session and e-mailed it to me later that evening. Five participants filled out the activity on their computers using electronic versions of the Phases I-III handout (Appendix C). One participant experienced

computer problems and elected to complete the exercise by hand, which I later transcribed into digital form. This activity concluded Unit Four and, as also described previously, served as the first measurements for the Thematic Goodness-of-Fit variable (using Phases I-III) and Content Identification variable (using Phase I solely).

Participants were asked to review three articles before our next meeting: *The Process of Thematic Mapping in Case Conceptualization* (Ridley et al., 2017b), *A Case Conceptualization Using Thematic Mapping* (Jeffrey & Ridley, 2017), and *Clinical Implications of a Psychological Model of Mental Disorder* (Kinderman & Tai, 2007).

**Day Three: Units Five and Six.** I introduced our third class with “Unit Five: Themes, Theory, and Metaphors,” which started with an examination of the benefits of transtheoretical and transdiagnostic approaches to case formulation. This was done via class discussion, in which five of the participants volunteered their thoughts, opinions, and views based both on what had been covered in the class already and the class readings assigned outside of the workshop. The benefits of diagnosis and theory in case conceptualization were also discussed. As this conversation commenced, participants recorded their thoughts on individual worksheets entitled “Critical Thinking: The Role of Themes and Theory in Thematic Mapping.” Overall, this transtheoretical and transdiagnostic discussion lasted approximately 30 minutes. One participant arrived at the workshop after this activity was completed due to interference from an exam in a prior class that ran longer than they anticipated; this participant was provided with a copy of the class’ commentary as recorded on the provided worksheet.

After this activity, participants were provided two handouts on metaphors: (1)

“Guidelines and Tips for Creating Metaphors” amalgamated from multiple online resources (Baughman, 2012; Clark, 2007; Mind Tools Content Team, n.d.), and (2) Sample metaphors from other psychologists who utilize metaphors in therapy, particularly Acceptance and Commitment Therapy (ACT) (Association for Contextual Behavioral Science, 2016). At this stage, I introduced three alternative metaphors for Jane (previously described as the “Punching Bag” and “Puncher”) to illustrate how many metaphors could be used to explain her functioning and presentation. This included an additional handout in which Jane’s theme was succinctly re-conceptualized as a “Stale Pickle,” “Old Parking Garage,” and “Arthritic Kangaroo” (Refer to Appendix D). The group engaged in a brief conversation after each of these alternative themes were introduced, lasting approximately eight minutes in duration.

Participants were then encouraged to come up with their own metaphors for Jane’s functioning and explain why they felt it was a representative theme given the available data. It was emphasized at this stage that the end goal of Thematic Mapping wasn’t to collectively come up with the same metaphor for a client, but for each clinician to individually establish a client-centered, ideographic metaphor that maximized the available data and the clinician’s understanding of the client. This activity lasted approximately 20 minutes.

Participants then engaged in a different activity that highlighted the personal aspect of creating a metaphor. This was accomplished by asking the students to individually reflect on a favorite character or place from a book or movie that they enjoyed and explain (1) Why the particular character or place was their favorite, (2)



What metaphor they chose to represent the character or place, and (3) Why the metaphor was meaningful to them. Participants drew from a wide array of films and books, including characters from *The Hangover*, *The Princess and the Frog*, *Kung Fu Panda*, *Gilmore Girls*, *Jane Eyre*, and the *Life of Pi*, which many selected due to a personal attraction or identification with the character(s), plot, or setting(s). The resulting metaphors that each participant volunteered included, respectively, “A Sunflower in the Shade,” “Horse with Blinders,” “Caterpillar into a Butterfly,” “Eye of the Storm,” “Two-Way Mirror,” and a “Courageous Tiger.” The purpose of the exercise was to underscore again how metaphors inherently draw upon each individual’s experiences, worldviews, and critical thinking patterns. This activity lasted approximately 35 minutes, after which participants took a 10-minute break.

Following the break, I introduced “Unit Six: Creating Behavior-Episodes Lists” by providing a handout entitled “Discovering Patterns,” which featured an image of a 36-digit Pascal’s Triangle (i.e., a triangular array of numbers that displays multiple mathematical patterns). The purpose of this activity was to provide participants with a poignant visual to help them connect with the idea that a phenomenon can consist of multiple patterns, although the patterns may not be obvious to individuals whose observations are causal and lacking in depth of exploration. Participants were asked to look over the triangle and identify as many numerical patterns as they could. Following the activity, participants were encouraged to re-envision the patterns in the triangle as patterns carried out by clients.

In one provided, highly simplified example, two salient client episodes (ex.

sexual trauma and the death of a protective parent) were presented as events that could contribute to a client's behaviors (ex. distrust of the sexual perpetrator, increased isolation from others); these behaviors in combination with another life episode (ex. a best friend betraying the trust of this client) could aid in reinforcing a pattern of behavior that generalizes beyond a singular event (ex. distrust of many others, even those who purport to help). Participants were asked to volunteer patterns they witnessed in several of their clients and what behavior-episodes could play a role in creating these patterns. This activity lasted approximately 15 minutes.

I then asked one participant to volunteer to present a real client he or she was working with to carry out the first phase of Thematic Mapping, along with simultaneous clinical supervision from Dr. Ridley. Once client data was shared, Phase I was completed collectively as a group using the room's white board, with all participants providing additional observations and feedback. The first step the group carried out was identifying the client's cultural characteristics. Special attention was paid to highlighting the client's acculturation status, gender identity, and tendency to adhere to traditional gender norms. The participant then admitted to one premature interpretation in treating their client—that the client was struggling with Post-Traumatic Stress Disorder. Following this admission, the participant then listed the client's most salient life episodes and behaviors, with particular focus of attention on creating the Behavior-Episodes List. This activity lasted approximately 60 minutes.

After completion of this activity, all participants were given three tasks to complete before next week's meeting: (1) read two required articles provided at the end

of class: *Metaphors of Mind* (Ferryhough, 2006) and *How Using the DSM Causes Damage: A Client's Report* (Honos-Webb & Leitner), (2) carry out Phase II of Thematic Mapping with the case that was presented in class, which included coming up with hypothesized patterns, a theme, and sub-themes, and (3) revisit the Thematic Mapping exercise they carried out at the end of the last class—particularly the identified behaviors, episodes, and preliminary patterns—and add to it or revise it in a different colored font if they saw room for elaboration following today's instruction. Students were also provided an article on the evolution of mental metaphors in psychology for supplemental reading (Gentner & Grudin, 1985). Participants agreed to do complete these assignments before next class.

**Day Four: Unit Seven and Revisiting Unit Four.** The fourth day of the workshop was dedicated to “Unit Seven: De-bias: Challenging the Soundness of Themes” and revisiting “Unit Four: Implementation of Thematic Mapping into Practice” by practicing the full process of Thematic Mapping as a group with real clients. One participant was absent this day due to involuntary travel. As a result, a one hour, one-on-one meeting was arranged with the participant to cover the missed material.

I began the workshop with Unit Seven through a 20-minute Microsoft PowerPoint© presentation entitled “Five Stages of Debiasing in Thematic Mapping.” This presentation also served as a quiz in which participants were asked as a group to decide whether a clinician possessed sufficient information to move onto the next step of Thematic Mapping. The purpose of this presentation was for participants to gain critical thinking skills regarding when a step or assumption in case conceptualization and

Thematic Mapping does or does not possess sufficient support. Participants answered all questions correctly and engaged in subsequent discussion as to why the answer they chose was correct. Participants were provided a hardcopy of the presentation after completion.

Following this presentation, I provided participants with a handout that presented a list of judgmental and inferential errors that clinicians are susceptible to during case conceptualization and treatment. See Appendix A. The group engaged in a brief discussion as to how several of these errors may have manifested in their past clinical work. This discussion lasted approximately 10 minutes. I provided an optional take-home “matching” quiz of these errors with their respective definitions, as well as a required assignment entitled “Challenging the Soundness of Your Themes Checklist.” The assignment was to be completed independently before next class.

The “Challenging the Soundness of Your Themes Checklist” asked participants to reflect on one of their Thematic Mapping exercises and challenge themselves to examine whether they: (1) Possessed sufficient information to justify their case conceptualization and (if applicable), what information they wished they had in order to strengthen it; (2) Identified a sufficient number of episodes and behaviors in relation to each other; (3) Provided sufficient support for each hypothesized pattern, theme(s), and sub-themes; (4) Incorporated sufficient client data; (5) Assessed for redundant patterns and sub-themes and, if such redundancy is present, why it was there; (6) Checked for congruency with final theme(s)/sub-themes and evidence-based conclusions established in scientific literature; and (7) Engaged in introspection as to possible judgmental or

inferential errors that might be influencing the outcome of their conceptualization.

Participants then revisited “Unit Four: Implementation of Thematic Mapping into Practice;” this was accomplished by a second participant volunteering to implement Phase I of Thematic Mapping in the group using deidentified information of a current client. Each participant was given a blank handout of Phases I-III to fill in during the process as client data was introduced. This lasted approximately one-and-a-half hours. The participant who volunteered a client for Phase I during the previous class also offered to complete Phase I in the group again with a second client. However, the group was only able to complete listing the client’s cultural characteristics and salient life episodes before the workshop session came to an end for the day. This final activity lasted approximately 40 minutes. The class agreed to continue the remainder of Phase I with this client next week.

No new reading assignments were required of participants before the next workshop session. However, I informed participants that I would be emailing back their revised first attempt at Phases I-III of Thematic Mapping with additional feedback or questions for them to consider before our next meeting. I requested that participants review this activity while following through with the de-biasing steps covered in today’s session.

**Day Five: Unit Eight and Revisiting Unit Four.** I then introduced “Unit Eight: Attuning to Culture,” beginning with a handout on multiculturalism in which the term was defined by ten dynamics/criteria the American Psychological Association (2002):

[Multiculturalism] in an absolute sense, recognizes the broad scope of

dimensions of race, ethnicity, language, sexual orientation, gender, age, disability, class status, education, religious/spiritual orientation, and other cultural dimensions. All of these are critical aspects of an individual's ethnic/racial and personal identity (p. 9-10).

Participants also reviewed culture as defined in the DSM-5 (American Psychiatric Association, 2013):

Culture refers to systems of knowledge, concepts, rules, and practices that are learned and transmitted across generations. Culture includes language, religion and spirituality, family structures, life-cycle stages, ceremonial rituals, and customs, as well as moral and legal systems. Cultures are open, dynamic systems that undergo continuous change over time; in the contemporary world, most individuals and groups are exposed to multiple cultures, which they use to fashion their own identities and make sense of experience. (p.749).

Participants were encouraged to identify other cultural traits or values not included in the aforementioned definitions that they believed should be included in a case formulation if such traits were relevant to their client of focus. This included (1) level of acculturation and/or enculturation, (2) adjustment to new cultures, (3) country of origin, (4) gender role socialization, (5) surrounding cultural “norms” in light of the client’s traditional cultural practices, (6) noting the cultural characteristics of people in the client’s surrounding social network (ex. religious differences between the client and family), (7) collectivist versus individualistic practices or attitudes, and (8) generational values.

During the discussion, participants agreed that addressing clients’ worldviews,

views on culture, and definitions of self as a cultural being were important cultural considerations in case formulation. One example of the importance of eliciting the client's self-description was introduced by one participant who stated she was working with a client who was a first generation Asian-American but identified as Caucasian/White despite not possessing such racial heritage or features. This client's cultural identification ended up playing a key role in her case formulation. Subsequently, an increased emphasis was placed on gathering cultural information beyond demographics recorded on intake paperwork.

It was emphasized that participants should strive to both acknowledge and integrate cultural factors into their conceptualizations, with an open discussion on how participants would go about doing this in their case formulations. Participants were also provided information on how a client's cultural background could not only serve as a descriptive characteristic, but also as context for life episodes, recurring behavior patterns, and the overall conceptualization of a client's current state of functioning. This review and discussion lasted approximately 30 minutes.

Participants then reviewed a copy of the Case Formulation Interview (CFI) created by the American Psychiatric Association and presented in the DSM-5. The CFI is an interview-guide for clinicians with the end-goal of soliciting critical information on a client's cultural background as a tool to better inform clinical decision making; at the time of the workshop, the American Psychiatric Association encouraged the use of the CFI for further research and clinical evaluation as data on the usefulness of the CFI was still being collected (DSM-5; American Psychiatric Association, 2013). Participants

individually reviewed the four domains of the CFI (e.g., Cultural Definition of the Problem; Cultural Perceptions of Cause, Context, and Support; Cultural Factors Affecting Self-Coping and Past Help Seeking; Cultural Factors Affecting Current Help Seeking) for approximately 10 minutes as additional information on cultural consideration in case formulation. Participants also discussed barriers to implementing the CFI (e.g., Aggarwal, Nicasio, DeSilva, Boiler, & Lewis-Fernández, 2013).

The group then revisited “Unit Four: The Implementation of Thematic Mapping” by revisiting the unfinished Thematic Mapping conceptualization from the prior class. The participant who volunteered this client admitted to struggling with identifying patterns in the behavior-episodes list; as a result, extra time was afforded for group brainstorming and discussion. The participant’s case presentation and group feedback on the full implementation of Thematic Mapping with this client lasted for approximately two hours under the supervision of Dr. Ridley.

The remaining 30 minutes of the workshop were spent eliciting feedback from the group on what they felt was most needed to revisit or cover in our remaining lesson. This feedback included reviewing the best ways to collaborate with the client in the Thematic Mapping process and how to present the client with their theme. We agreed to use the remaining workshop time to (1) learning how to integrate Thematic Mapping into a formal case conceptualization and (2) practice eliciting behavior descriptions from clients via a role play between Dr. Ridley and myself.

Participants were asked to do two activities before next class: (1) Finish the six question de-biasing checklist assigned in the previous class as not every participant



remembered to complete the assignment on time, and (2) Respond to feedback I provided on their first attempt of Phases I-III of Thematic Mapping before meeting for our next class. One participant requested additional assistance related to the provided feedback due to difficulty deriving patterns from the Behavior-Episodes List; as a result, I arranged a one-on-one meeting with this participant the next day that lasted approximately one hour in duration.

**Day Six: Unit Nine.** Participants returned both assignments from the previous workshop session on time. I began the next session by introducing “Unit Nine: Synthesizing Thematic Mapping into a Formal Case Conceptualization” via a didactic presentation with assistance from Microsoft PowerPoint© entitled *How to Synthesize the Thematic Mapping Process into a Formal Case Conceptualization*; this lasted approximately 15 minutes in duration.

This presentation highlighted the three-step process of Unit Nine: (1) Carry out Phases I-III of Thematic Mapping, (2) Review the characteristics of a strong case formulation (e.g., Eells et al., 2005), and (3) Use Phases I-III to create a five-paragraph formal case formulation respectively comprised of client-centered characteristics, life episodes, behavior patterns and descriptions, deducing/interpreting aforementioned data, and suggesting treatment recommendations/next steps. Participants were asked to practice creating a formal case conceptualization (known as Phase IV of Thematic Mapping) from their re-revised attempt at Phases I-III of Thematic Mapping and send it to me electronically prior to our last meeting. As the Thematic Mapping Workshop did not focus on treatment planning, participants were not asked to write the fifth paragraph

as demonstrated in the presentation. An additional deidentified example of Phases I-IV of Thematic Mapping—Hector, the “Silent Stone”—was provided at this time.

Dr. Ridley and I then engaged in a 10-minute role play in which I portrayed a client coping with an assortment of SPMI symptomology while Dr. Ridley played a therapist soliciting information related to Thematic Mapping. Following this role play, participants shared what episodes and behaviors they observed that Dr. Ridley gathered during the role play. They also provided reactions and additional questions as to how the therapist would move forward. This discussion lasted an additional 10 minutes.

Due to a shared anxiety related to completing progress notes on time for the CAC, participants were excused from the workshop and group supervision after this activity. Participants were reminded that, while this session concluded the Thematic Mapping workshop, we would convene one last time next week in order for them to independently complete two Thematic Mapping exercises in totality (Phases I-IV). They were encouraged to begin identifying which two clients (seen at least two times and not yet used in any practice or take-home exercise during the workshop) that they would like to use for the assignment. They were also reminded that they would receive their \$50.00 incentive at the end of the final activities.

**Day Seven: Post-Workshop Final Activities.** Participants turned in their final practice case formulations (Phase IV) as assigned prior to our final meeting. They then moved to the adjacent group supervision room to independently complete the two final Thematic Mapping exercises (Phases I-IV), which served as the final data points for the Complexity, Systematic Process, Thematic Goodness-of-Fit, and Content Identification

variables. Participants were informed that the activities were not time-limited and to deidentify all client data used in the process. Dr. Ridley and I observed participants through a one-way mirror in the neighboring group supervision room with occasional check-ins for progress and fatigue levels.

All activities were completed on individual laptops and uploaded to an encrypted USB Drive upon completion; participants received their financial incentive after this step. Four of the six participants turned in the assignments approximately two-and-a-half hours after starting; one participant turned in the assignments three hours after starting; one participant turned in the assignments three-and-a-half hours after starting. This concluded the full duration of the Thematic Mapping workshop-related activities.

**Table 1** Overview of workshop schedule, activities, and objectives

Day	Unit	Activities (minutes spent on activity)	Objectives
1	Unit One: Overview of Case Conceptualization (CC) in Psychology	<ol style="list-style-type: none"> <li>1. Group Discussion: <i>Clinical Thinking Skills</i>, Schwitzer &amp; Rubin (10)</li> <li>2. Didactic Presentation: "Overview of CC" (50)</li> <li>3. Individual Activity: Art activity- "How CC affects the therapeutic alliance" (10)</li> <li>4. Group Activity: Define CC collectively (10)</li> <li>5. Workshop Activity: Complete Two CCs (25)</li> </ol>	<ol style="list-style-type: none"> <li>1. Review/identify a clear, working definition of CC to participants to ensure sufficient working knowledge of the activity.</li> <li>2. Deepen understanding of the purpose/parts of CC.</li> <li>3. Introduce ways to critically think about CC as a clinical activity.</li> <li>4. Gather initial data for Complexity/Systematic Process variables.</li> </ol>
	Unit Two: Introduction to Thematic Mapping (TM)	<ol style="list-style-type: none"> <li>1. Didactic Presentation: "Introduction to TM" (20)</li> <li>2. Group Quiz/Discussion: Basic components of TM (7)</li> <li>3. Homework: Two Articles: <i>Case Formulation (CF) in Psychology: Revitalizing its Usefulness as a Clinical Tool</i>, Sim, Gwee, Bateman; <i>Conceptual Framework of TM in CC</i>, Ridley &amp; Jeffrey</li> </ol>	<ol style="list-style-type: none"> <li>1. Introduce participants to the basic traits of TM in contrast to previously covered models of CC.</li> <li>2. Provide a basic conceptual framework for TM prior to practicing the methodology.</li> </ol>
2	Unit Three: The Process of TM	<ol style="list-style-type: none"> <li>1. Didactic Presentation: "The Process of TM" w/ handouts (30)</li> <li>2. Group Activity: Watch movie clip, discuss how group would employ TM in session w/ the featured client (45)</li> </ol>	<ol style="list-style-type: none"> <li>1. Further explore how to carry out TM in CC and in session</li> <li>2. Provide additional resources/visual aids of the method and purpose of the process.</li> </ol>
	Unit Four: Implementation of TM into Practice	<ol style="list-style-type: none"> <li>1. Group Activity: Review demonstration of the process of TM w/ one of the lecturer's clients (20)</li> <li>2. Workshop Activity: Carry out Phases I-III of TM independently w/ a deidentified client (10-55)</li> <li>3. Homework: <i>Process of TM in CC</i>, Ridley &amp; Jeffrey; <i>A CC Using TM</i>, Jeffrey &amp; Ridley; <i>Clinical Implications of a Psychological Model of Mental Disorder</i>, Kinderman &amp; Tai</li> </ol>	<ol style="list-style-type: none"> <li>1. Gain deeper understanding of how TM is utilized in clinical practice through examples.</li> <li>2. First attempt at using TM with a real client.</li> <li>3. Encourage critical thinking about TM process in comparison to other methods of CC.</li> <li>4. Gather initial data for Thematic Goodness-of-Fit/Content Identification variables.</li> </ol>
3	Unit Five: Themes, Theory & Metaphors	<ol style="list-style-type: none"> <li>1. Group Activity: "Role of Themes &amp; Theory in TM" (30)</li> <li>2. Didactic/Group Activity: Use of metaphors in psychology (28)</li> <li>3. Individual Activity/Group Discussion: Create metaphor from a favorite book/movie (35)</li> </ol>	<ol style="list-style-type: none"> <li>1. Gain a deeper understanding and mastery of metaphors/themes.</li> <li>2. Explore how metaphors are used in other types of therapy.</li> <li>3. Analyze how metaphors demand crucial thinking of clients and presenting complaints in CC.</li> </ol>
	Unit Six: Creating Behavior-Episodes Lists	<ol style="list-style-type: none"> <li>1. Group Activity: "Discovering Patterns" w/ Pascal's Triangle; applying theory of patterns to client episodes/behavior patterns (15)</li> <li>2. Group Activity: Complete Phase I w/ one participant's clients (60)</li> <li>3. Homework: <i>Metaphors of Mind</i>, Fernyhough; <i>How Using the DSM Causes Damage: A Client's Report</i>, Honos-Webb &amp; Leitner; Complete phase II w/ client presented in class; Revisit the TM exercise they completed in the prior class and add/revise as seen fit</li> </ol>	<ol style="list-style-type: none"> <li>1. Enhance critical thinking of how to identify recurring client behavior patterns and what factors may contribute to such patterns.</li> <li>2. Practice the Behavior-Episodes List and Phase I as a group to provide collective feedback, questions, and interpretations.</li> <li>3. Further explore usefulness of a transdiagnostic method of CC.</li> </ol>

**Table 1** Overview of schedule of workshop and related activities (con't)

Day	Unit	Activities (minutes spent on activity)	Objectives
4	Unit Seven: De-bias: Challenging the Soundness of Themes	<ol style="list-style-type: none"> <li>1. Didactic/Group Quiz: "Five Stages of Debiasing in TM" (20)</li> <li>2. Group Activity: Review judgmental/inferential errors and how they may manifest in clinical work (10)</li> <li>3. Group Activity: Revisit Unit Four w/ collectively completing Phase I w/ a new client from last week's participant, as well as Phase I with a 2<sup>nd</sup> participant's client (130)</li> <li>3. Homework: Complete 6-item debiasing checklist on the client they had completed Phases I-III with; Review separate feedback provided by the lecturer on their revised first Phases I-III attempt.</li> </ol>	<ol style="list-style-type: none"> <li>1. Introduce a way for clinicians to challenge the soundness of CCs.</li> <li>2. Identify ways to check for bias, judgmental/inferential errors, and/or poor support in CCs and TM.</li> <li>3. Have clinicians challenge their support and reasoning underlying their current TM activities.</li> <li>4. Continue practicing Phase I as a group.</li> <li>5. Explore areas participants may have overlooked in completing Phases I-III and why such areas may be incomplete.</li> </ol>
5	Unit Eight: Attuning to Culture	<ol style="list-style-type: none"> <li>1. Group Activity: Review &amp; expand upon existing definitions of multiculturalism/culture and CFI (DSM-5, APA) (40)</li> <li>2. Group Activity: Revisit Unit Four w/ collectively completing Phase I-II w/ the 2<sup>nd</sup> participant's client from the prior week (120)</li> <li>3. Group Activity: Group feedback on remaining desires of focus (30)</li> <li>4. Homework: Finish debiasing checklist assignment; Respond to feedback provided by lecturer on revised Phases I-III attempt.</li> </ol>	<ol style="list-style-type: none"> <li>1. Critically define and explore multiculturalism and methods of incorporation into CC and TM.</li> <li>2. Identify cultural characteristics and how culture may manifest in client episodes, behaviors, patterns, and theme(s).</li> <li>3. Continue to practice carrying out the phases of TM with real clients while exploring areas of bias/premature interpretations</li> <li>4. Solicit participants' needs in remaining workshop time.</li> </ol>
6	Unit Nine: Synthesizing TM into a Formal CC	<ol style="list-style-type: none"> <li>1. Didactic Presentation: "How to Synthesize TM into CC" (15)</li> <li>2. Role Play: Dr. Ridley &amp; lecturer as therapist/client to demonstrate how a therapist gathers client information on episodes/behaviors in session (20)</li> <li>3. Homework: Synthesize Phases I-III Activity into a formal CC (Phase IV)</li> </ol>	<ol style="list-style-type: none"> <li>1. Provide information on how to turn the TM process (Phases I-III) into a formal CC (Phase IV).</li> <li>2. Further demonstrate how to elicit information from clients to enhance TM conceptualizations.</li> </ol>
7	N/A	<ol style="list-style-type: none"> <li>1. Individual Activity: Independently complete Phases I-IV of Thematic Mapping with two clients seen more than twice and not yet utilized in any practice or take-home exercise during the workshop (150-210).</li> </ol>	<ol style="list-style-type: none"> <li>1. Gather final data for Complexity, Systematic Process, Thematic Goodness-of-Fit, and Content Identification variables.</li> </ol>

## **Measures**

As noted previously, study measures examine case formulation complexity, evidence of a systematic process within the case formulation, and goodness-of-fit of themes/sub-themes to client data. The amount of behaviors, episodes, and cultural characteristics (i.e., Content Identification) were also compared from the start and end of the workshop. Three formulation quality criteria from the Case Formulation Content Coding Method (CFCCM), originated by Eells, Kendjelic and Lucas (1998), were selected and modified by Jeffrey and Ridley (2016) to measure case formulation: Complexity, Systematic Process, and Thematic Goodness-of-Fit. Scores for these variables result from independent coding from two or more raters following extensive training on the CFCCM. Content Identification was measured separately.

### **Case Formulation Content Coding Method**

The Case Formulation Content Coding Method (CFCCM) is a “tool for reliably and comprehensively categorizing the information that a clinician uses in conceptualizing a patient... [and] for rating the quality of the formulation” (Eells et al., 1998, p. 146). Eells et al. (2005). The instrument identifies eight formulation quality criteria: comprehensiveness, formulation elaboration, precision of language, complexity, coherence, treatment plan elaboration, goodness-of-fit, and systematic process. The scoring sheets for these criteria are found in Appendix E and Appendix F. Complexity, systematic process, and goodness-of-fit variables were selected for this study due to their relevance to the topic, appropriateness for the methodological design, and the statistical strength exhibited in previous studies. While the operational definition, standards, and

application of these three variables on the CFCCM were held constant, several modifications in scoring criteria were incorporated to accommodate for the unique framework of Thematic Mapping. Grammatical structure, spelling, writing style or quality, word length, and elaboration of language were not factors considered in the scoring process.

**Complexity.** Complexity refers to “the extent to which therapists integrated several facets of the person’s problems into a meaningful presentation” (Eells et al., 1998; Eells et al., 2005). For the purposes of this study, “facets” were described as notable events, behaviors, and characteristics that occur across settings, time, and interactions with other people (Jeffrey & Ridley, 2016). It was rated on a 5-point Likert scale ranging from 0 (Insufficient Information) to 4 (High Complexity). According to Eells et al. (2005), highly complex formulations can either evidence an integration of multiple aspects of a person’s presenting problems/functioning or exhibit extensive development of one or two themes. Complexity as measured in Thematic Mapping echoes these standards, with the highest complexity scores granted to case formulations that exhibit thorough descriptions of multiple integrated facets (typically emerging as “themes”), as well as clear “meaning making” of stated facets or themes. Only one case formulation is required to measure the complexity variable per participant.

**Systematic Process.** Systematic Process, or the amount of evidence that a clinician is using an *a priori* method for developing case formulations, is also rated on a 5-point Likert scale on the CFCCM ranging from 1 (No Evidence or Nearly No Evidence) to 5 (Evidence Beyond a Reasonable Doubt) (Eells et al., 2005). Specifically,

an *a priori* scheme is a predetermined, structured method of organizing clinical information. Eells et al. (2005) advocate for a systematic formulation process as case conceptualizations that follow such a structure tend to result in more complex, detailed, and multilayered formulations. The measurement protocol of a systematic process in Thematic Mapping is identical to the CFCCM, although it is emphasized in Thematic Mapping that “identical” case formulations (i.e., formulations that “look alike”) do not necessarily indicate that a systematic process took place. Rather, coders for this variable need to assess for whether the flow of operations within each compared case formulation “fit” together, are clearly organized, possess “meaning making,” and exhibit systemic consistency.

In order to measure this variable, the systematic process must be evaluated across more than one case formulation. On the basis of this criterion, participants were asked to create two pre-workshop and two post-workshop case formulations. For this study, the Systematic Process variable was modified to range between 0 and 4 on a Likert scale instead from 1 to 5 in order to have a common metric with the numerical scales of the Complexity and Thematic Goodness-of-Fit variables (0 to 4). The descriptive values for each numerical value are sequentially identical on both scales (i.e., 0 indicates “No Evidence or Nearly No Evidence” and 4 indicates “Evidence Beyond a Reasonable Doubt”). In Thematic Mapping, strong evidence of a systemic methodology of case formulations is based on consistency, logical organization/structure of content, similar conceptual structures, and “meaning making” independent from the client or presenting problem.



**Thematic Goodness-of-Fit.** The goodness-of-fit variable created by Eells et al. (2005) specifically measures the extent to which a treatment plan is consistent with a case formulation. However, goodness-of-fit on the CFCCM is also viewed on a broad-scale as a measure of a clinician's overall comprehension of their basic formulation by confirming what themes the treatment plan designs to target. While the Thematic Mapping Workshop does not stress the measurement of treatment plan quality, I speculate that this variable can be adapted to measure the level of "fit" of the theme to organized client data. That is to say, per the structure of Thematic Mapping, themes must holistically, consistently reflect and synthesize all core components of the case formulation (specifically the modified Behavior-Episodes List) and vice versa. Similarly, Eells et al. (2005) specified that a high quality treatment plan must reflect and synthesize all the key issues raised in the case conceptualization. This "modified" variable from the CFCCM (i.e., "*Thematic Goodness-of-Fit*") is rated on a 5-point Likert scale ranging from 0 (Insufficient Information) to 4 (High Consistency) and is scored based off of Phases I-III of Thematic Mapping rather than the final case conceptualization. High consistency scores on this variable indicate that the resulting theme is inclusive of many facets of the data and the representation of data in the theme is clear and congruent.

### **Content Identification**

To measure the Content Identification variable, the total number of behaviors, episodes, and cultural considerations identified in the two autonomous attempts of Phase I (gathered on Day 2 and Post-Workshop) were compared. This was gathered from a

summation of the number of distinct, unique idea units in respective columns in this phase (Refer to Appendix B). Each of these idea units were assessed for clarity, possible duplications, or incorrectly labeled units (i.e., labeling a client behavior as an episode). Unclear idea units, duplications, or mislabeled units were removed from participants' final Content Identification totals.

## **Data Analysis**

### **Establishing Interrater Reliability**

To attain inter-rater reliability for the CFCCM, two advanced graduate research assistants were trained to identify and score for Complexity and Systematic Process in full case conceptualizations. This was accomplished using practice vignettes created by the lead investigator using rules and guidance from Dr. Eells and the CFCCM Manual. The training also involved three face-to-face training sessions ranging from two to three hours in duration each. In these sessions, raters reviewed the CFCCM Manual including the minor modifications for the Thematic Mapping structure, practiced scoring, compared scores, reviewed agreements, and discussed and negotiated discrepancies. Raters did not have exposure to any of the participants' case formulations until all workshop activities were completed in entirety. All case conceptualizations completed by participants in the workshop and provided to the raters to code were randomized and deidentified. Raters were also blinded to the full purpose of the activity until all coding was completed.

Both raters scored all 24 case conceptualizations independently within a 48-hour period following the conclusion of the Thematic Mapping Workshop and after raters

showed sufficient mastery of the CFCCM Complexity and Systematic Process variables. After completing scoring, raters compared scores and discussed existing discrepancies until agreement was reached on one raters' score. This method of attaining reliability (i.e., reaching agreement on one value rather than taking a mean from score differences) is identical in protocol to other studies that have utilized the CFCCM (e.g., Eells et al., 2005; Kendjelic & Eells, 2007). A two-way random effects intraclass correlation coefficient (ICC) was calculated for both variables in SPSS.

Following the scoring of the Complexity and Systematic Process variables, inter-rater reliability for the Thematic Goodness-of-Fit variable was established. Due to limited expertise on the process of Thematic Mapping outside of the founders of the method, Dr. Ridley and I elected to serve as raters for this variable. This was done by reviewing the operational definition and examples on the Goodness-of-Fit variable as defined on the CFCCM and modified through Thematic Mapping. Due to my familiarity with the participant's first attempt at the Thematic Mapping process during the workshop, this variable was not coded until a prolonged amount of time had passed following the final data collection. In addition, all activities were randomized and deidentified for the raters. Results were analyzed using a two-way mixed effects ICC.

## **Analysis**

This experiment measured changes in individuals' case formulation quality and competency in Thematic Mapping. The Thematic Mapping Workshop served as the independent variable in the study and as the study intervention. Each participant achieved a pre-intervention score and post-intervention score on the Complexity and

Systematic Process variables, which were descriptively compared per participant for score changes. The values on each variable were respectively averaged to achieve overall pre- and post-intervention scores and subsequently analyzed using two paired t-tests. Similarly, each participant achieved a “first attempt” score and “final attempt” score on the Thematic Goodness-of-Fit variable, which were averaged to produce overall “first attempt” and “final attempt” values and analyzed using a paired t-test. Descriptive comparisons of score changes for this variable per participant were also reviewed.

The total number of “first attempt” and “final attempt” idea units under Phase I for the Content Identification variable were also analyzed descriptively per participant and averaged together for overall “first attempt” and “final attempt” mean idea units for quantitative assessment (i.e., paired t-test). In addition, the sub-content under this variable (e.g., Episodes, Client Cultural Characteristics, and Behaviors) were descriptively compared and averaged for three additional paired t-tests. Interrater reliability, descriptive statistics, and t-tests were calculated using Statistical Package for the Social Sciences (SPSS) Version 23 software. Visual representations of score changes (i.e., the descriptive comparisons of individual score changes across the workshop) were created using Microsoft Excel©.

## CHAPTER IV

### RESULTS

This chapter discusses the results of the statistical analyses conducted to answer the study's research questions and sub-questions. The research explored changes in case formulation quality of participants exposed to a Thematic Mapping Workshop, as well as improvement in participants' ability to carry out the process of Thematic Mapping and identify and integrate critical culturally-sensitive client data. This section of the dissertation describes the analyses conducted and the results obtained in order to answer these questions. SPSS Version 23 was used to conduct a series of t-tests in order to obtain the information needed to answer the research questions. Before conducting these data analyses, descriptive data was gathered on each of the four dependent variables. Quantitative evaluations and demographic characteristics were gathered and reviewed.

#### **Research Questions Revisited**

The research questions and corresponding null and alternative hypotheses for the study are listed below:

Research Question 1: Will psychology trainees who complete the Thematic Mapping Workshop show enhanced complexity in their case formulations?

H<sub>0</sub>1: There is no improvement in the level of complexity of case formulations.

H<sub>1</sub>1: There is an improvement in the level of complexity of case formulations.

Research Question 2: Will psychology trainees who complete the Thematic Mapping

Workshop show higher adherence to an *a priori* or systematic approach to case formulation?

H<sub>0</sub>2: There is no evidence of higher adherence to a systematic process in completing case formulations post-workshop.

H<sub>1</sub>2: There is evidence of higher adherence to a systematic process in completing case formulations post-workshop.

Research Question 3a and 3b: Will psychology trainees' ability to carry out the process of Thematic Mapping improve across the workshop, including increased goodness-of-fit of client data to theme(s) and identification of more critical client data (i.e., episodes, behaviors, cultural characteristics)?

H<sub>0</sub>3a: There is no improvement in goodness-of-fit between client data and overall theme(s).

H<sub>1</sub>3a: There is an improvement in goodness-of-fit between client data and overall theme(s).

H<sub>0</sub>3b: There is no improvement in identification of critical client data.

H<sub>1</sub>3b: There is an improvement in identification of critical client data.

### **Quantitative and Descriptive Results**

Demographic characteristics, including age, gender, race/ethnicity, highest level of education, and prior major degrees for the six participants are shown in Table 2.

Analysis of interrater reliability for the CFCCM-based variables (i.e., complexity, systematic process, thematic goodness-of-fit) was first conducted. According to Koo and Li (2015), the two-way random effects intraclass correlation coefficient (ICC) of the

Complexity variable is excellent at .97; 95% CI [.92, .99]. The two-way random effects ICC for the Systematic Process variable is also excellent at .98; 95% CI [.94, .99]. The overall two-way random effects ICC for the two raters of these variables is .93; 95% CI [.86, .97], which is considered good-to-excellent. The two-way mixed effects ICC for the Thematic Goodness-of-Fit variable ranged from moderate-to-excellent at .89; 95% CI [.71, .96].

Table 3 features the descriptive statistics for the pre- and post-intervention (i.e., the Thematic Mapping Workshop) scores on the Complexity and Systematic Process variables, as well as the scores on the first- and final-attempts on the Thematic Goodness-of-Fit; this table also includes the minimum and maximum scores attained out of the six participants on each variable per stage. The scale for each variable ranges from 0 (minimum) to 4 (maximum).

**Table 2** Demographic characteristics of participants

Characteristics	Frequency	Percent
Age Range		
20-24	4	66.67
25-29	1	16.67
30+	1	16.67
Gender		
Female	5	83.33
Male	1	16.67
Race/Ethnicity		
Asian	2	33.33
South Asian	1	16.67
African American	1	16.67
Hispanic	1	16.67
White	1	16.67
Highest Level of Education		
Bachelor's	3	50
Master's	3	50
Degree		
Psychology	4	66.67
Prevention Science	1	16.67
Child Development	1	16.67

*Note.*  $N = 6$



**Table 3** Descriptive statistics for complexity, systematic process, and thematic goodness-of-fit per stage of intervention

Variable	Min	Max	M	SD
Complexity				
Pre-Intervention	0	2	.75	.99
Post-Intervention	2.5	4	3.50	.63
Systematic Process				
Pre-Intervention	0	2	.67	1.00
Post-Intervention	3	4	3.33	.52
Thematic Goodness-of-Fit				
First Attempt	0	4	2.17	1.33
Final Attempt	3	4	3.83	.41

*Note.*  $N = 6$  for all variables.

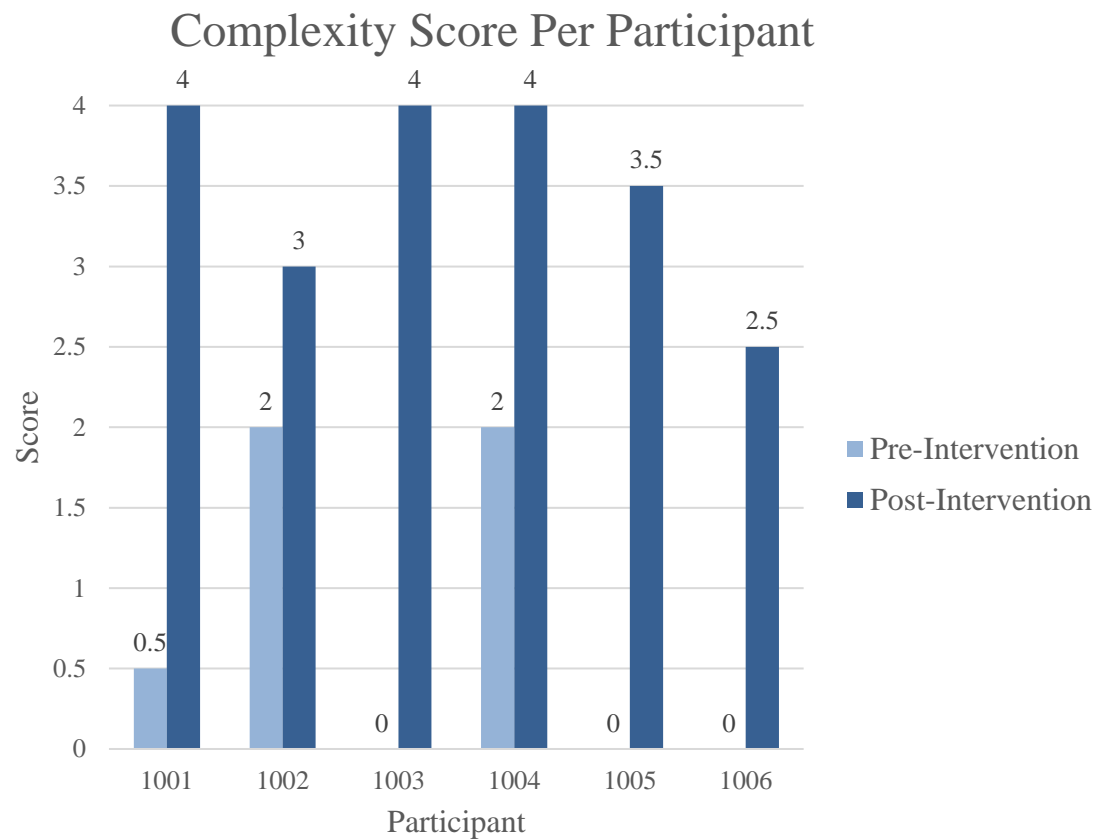
**Hypothesis 1: Trainees' case formulations will be more complex at the end of the Thematic Mapping Workshop than ones that they produce at the beginning of the workshop.** Descriptively, all six participants exhibited improvement in the complexity of their case formulations, which is represented visually in Figure 3. Quantitative results indicate that the complexity of case formulations produced at the end of the Thematic Mapping Workshop was significantly higher than the complexity of initial formulations with an average change in complexity score pre/post intervention of 2.5;  $t(5) = 5.59$ ,  $p = .003$ , 95% CI [1.35, 3.64]. It became evident upon closer examination of the data that one participant failed to complete one of their final case formulations. This resulted in a large score discrepancy in complexity between this participant's two post-intervention case conceptualizations in comparison to the score differences in their pre-intervention case formulations (Pre-intervention complexity

scores = 1, 0, respectively,  $M = .05$ ; Post-intervention complexity scores = 4, 1, respectively;  $M = 2.5$ ). As a result, this incomplete case formulation (treated as “missing data”) was removed from their final data calculation to reflect a more representative portrayal of the participant’s performance.

Recalculated results continue to show evidence of significant improvement in case formulation complexity from the beginning of the workshop ( $M = .75$ ,  $SD = .99$ ) to the end of the workshop ( $M = 3.50$ ,  $SD = .63$ ), with an average improvement of 2.75;  $t(5) = 5.97$ ,  $p = .002$ , 95% CI [1.56, 3.93]. These results are statistically significant at the  $p = .05$  level and the Bonferroni-corrected  $p = .025$  level. This finding suggests that final conceptualizations across participants included more facets and “meaning making” of a patient’s difficulties, behaviors across a variety of settings, major life events, social and interpersonal functioning, and culture. Based on these results, we reject the null hypothesis that complexity in case formulation does not improve pre- and post-interventions.

Further examination of the descriptive data showed that the participant who exhibited the largest improvement in complexity across the workshop achieved a pre-intervention score of 0 (Insufficient Evidence) and a post-intervention score of 4 (High Complexity). The participant who exhibited the least improvement in complexity across the workshop still evidenced improvement pre-intervention (2, Little Complexity) and post-intervention (3, Moderate Complexity). It is of note that the participant who scored the lowest on complexity post-intervention (2.5) scored higher than participants who achieved the highest scores on complexity pre-intervention (2). In other words, the

participant who produced the least complex case formulations in comparison to the group *after* the Thematic Mapping Workshop still produced more complex case formulations than the highest scoring participants of the group *before* the Thematic Mapping Workshop.



**Figure 3.** Complexity score pre- and post-intervention per participant

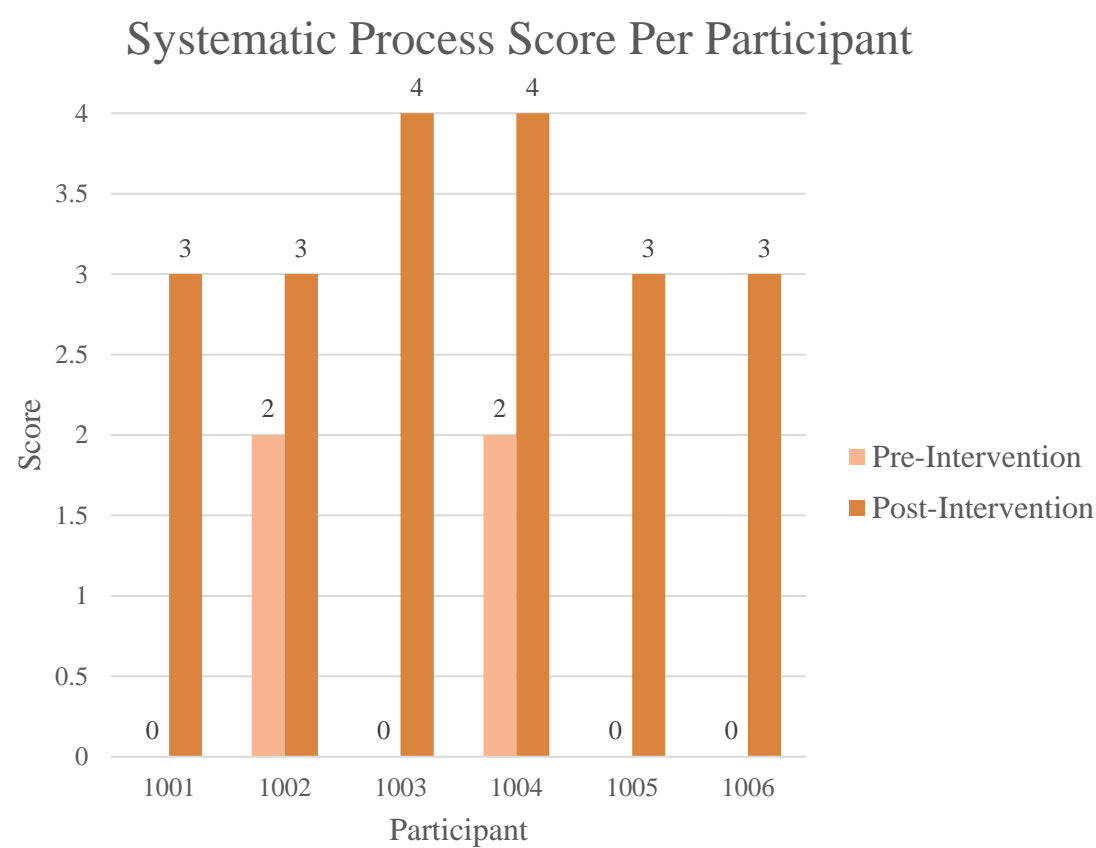
**Hypothesis 2: Trainees' case formulations at the end of the Thematic Mapping Workshop will show stronger evidence that a systematic process was used to complete the conceptualization (i.e., conducted independent of specific client information), than ones that they create at the beginning of the workshop.**

Statistical analyses suggest that evidence of a systematic, *a priori* method of case conceptualization increased significantly between pre-intervention case formulations ( $M = .67$ ,  $SD = 1.00$ ) and post-intervention case formulations ( $M = 3.33$ ,  $SD = .52$ ), with an average change of 2.67;  $t(5) = 6.33$ ,  $p = .001$ , 95% CI [1.58, 3.75]. These results are statistically significant at the  $p = .05$  and Bonferroni-corrected  $p = .025$  level.

Descriptively, improvement in evidence that a systematic process was used in creating case formulations was evident across all six participants, which is visually represented in Figure 4. Based on these results, we reject the null hypothesis there is no evidence of higher adherence to a systematic process in completing case formulations post-workshop.

Similar to the improvement in scores on the Complexity variable, the lowest post-intervention scores on Systematic Process (3, Clear and Convincing Evidence) were greater than the highest pre-intervention Systematic Process scores (2, Moderate Degree of Evidence); that is, the lowest scoring participants in systematic process post-intervention still performed better than the highest-scoring participants pre-intervention. The greatest improvement in systematic process across the workshop occurred in the same participant who exhibited the greatest improvement in case formulation complexity, with a pre-intervention Systematic Process score of 0 (Evidence or Nearly

No Evidence) and a post-intervention score of 4 (Evidence Beyond a Reasonable Doubt). The participant who exhibited the least improvement in case formulation complexity also exhibited the least improvement in systematic process, from a pre-intervention score of 2 (Moderate Degree of Evidence) to a post-intervention score of 3 (Clear and Convincing Evidence).

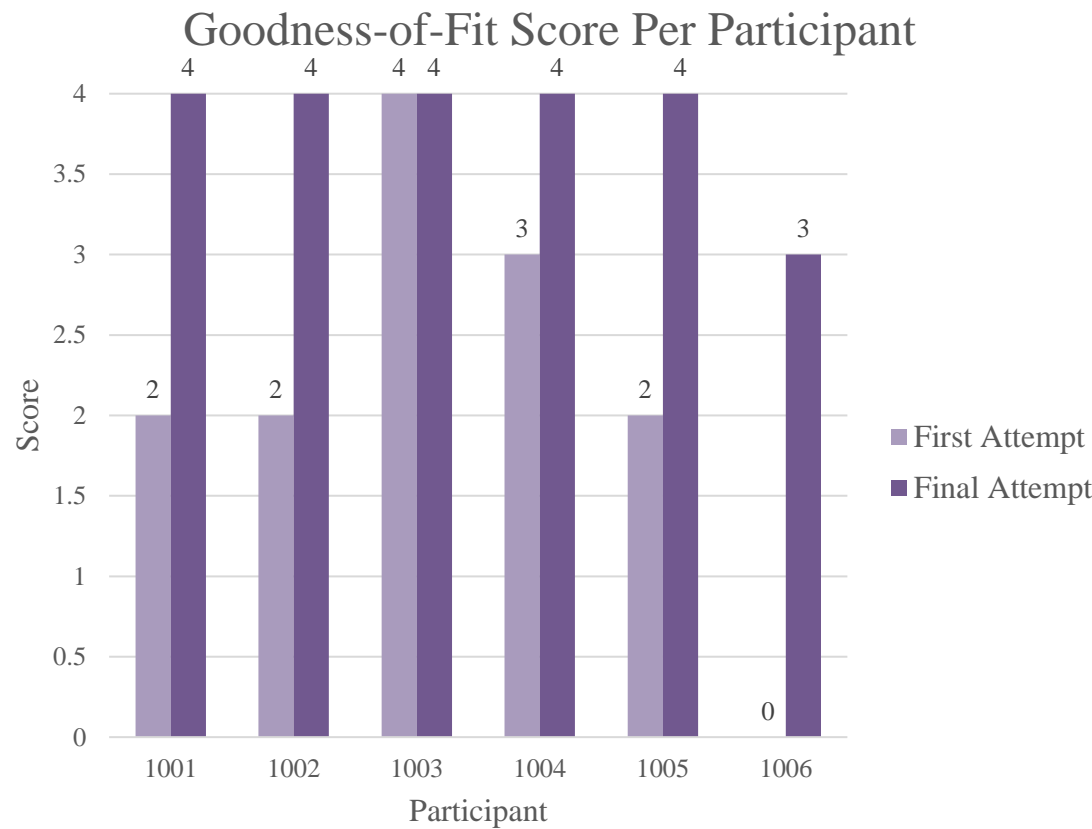


**Figure 4.** Systematic Process score pre- and post-intervention per participant

**Hypothesis 3(a): Trainees’ overall theme(s) of their respective clients will show improved goodness-of-fit to the behaviors, episodes, and culturally-integrated patterns (i.e., “client data”) in the process of Thematic Mapping across the workshop.** As mentioned previously, the final data collection that followed the Thematic Mapping Workshop asked participants to complete the full process of Thematic Mapping two times; to assess for improvement in Thematic Goodness-of-Fit, participants’ highest scores were used as their final point of comparison. While results were less statistically significant than Complexity and Systematic Process variables, data suggest participants’ Thematic Goodness-of-Fit between recorded client data (Phase I) and resulting theme(s) (Phases II and III) notably improved from their first attempt ( $M = 2.17$ ,  $SD = 1.33$ ) to their final attempt ( $M = 3.83$ ,  $SD = .41$ ), with an average increase of 1.67;  $t(5) = 3.95$ ,  $p = .02$ , 95% CI [.58, 2.75]. This is statistically significant at the  $p = .05$  and Bonferroni-corrected  $p = .025$  level. These results suggest we may also reject the null hypothesis that there is no improvement in goodness-of-fit between client data and overall theme(s). A visual representation of each participants’ first and final attempt on this variable is found on Figure 5.

Overall, five of the six participants exhibited improvement in Thematic Goodness-of-Fit across the workshop, with one participant attaining the highest possible score (4, High Consistency) on both their first and final attempts. Descriptively, the lowest scoring participant on their final attempt was lower than the highest score attained by a participant on their first attempt. However, this participant also exhibited the

largest improvement of the group on this variable, with a first attempt score of 0 (Insufficient Information) and a final attempt score of 3 (Moderate Consistency).



**Figure 5.** Thematic Goodness-of-Fit score per participant between first and final attempts at Phases I-III of the Thematic Mapping Process

**Hypothesis 3(b): Trainees will be able to independently identify more client episodes, behaviors, and cultural characteristics in the process of Thematic Mapping across the workshop.** Total Content Identification was assessed by tallying participants' number of idea units related to client episodes, cultural characteristics, and behaviors in their first attempt at Phase I and their highest scoring final attempt of Phase I. Descriptive statistics for first and final Phase I content idea units is represented in Table 4.

**Table 4** Descriptive statistics of content identification idea units per stage of intervention

Variable	Min	Max	M	SD
Total Content Identification				
First Attempt	12	24	17.67	4.84
Final Attempt	33	42	37.67	4.13
Episodes				
First Attempt	4	7	5.50	1.05
Final Attempt	12	19	15.50	2.35
Cultural Characteristics				
First Attempt	5	10	7.17	1.60
Final Attempt	11	16	12.67	1.75
Behaviors				
First Attempt	1	8	5.00	2.83
Final Attempt	6	12	9.50	2.43

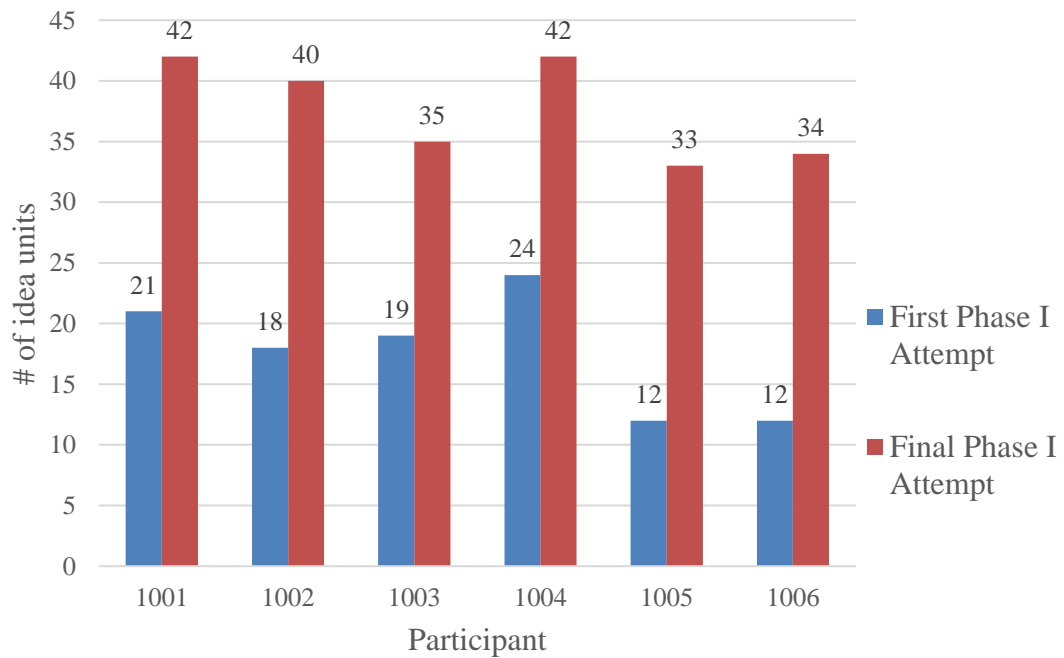
*Note.*  $N = 6$  for all variables.



Descriptively, all six participants markedly increased their ability to identify unique idea units of cultural characteristics, episodes, and behaviors in respective clients across the workshop (refer to Figure 6). Results from a paired t-test analysis of the Total Content Identification support descriptive results, suggesting participants significantly improved in their ability to identify critical client content from the beginning of the workshop ( $M = 17.67$ ,  $SD = 4.84$ ) to the end of the workshop ( $M = 37.67$ ,  $SD = 4.13$ ) with an average improvement of 20;  $t(5) = 20$ ,  $p = .0001$ , 95% CI [17.43, 22.57]. These results are statistically significant at the  $p = .05$  and Bonferroni-corrected  $p = .025$  level. These results suggest we may also reject the null hypothesis that there is no improvement in identification of critical client data.

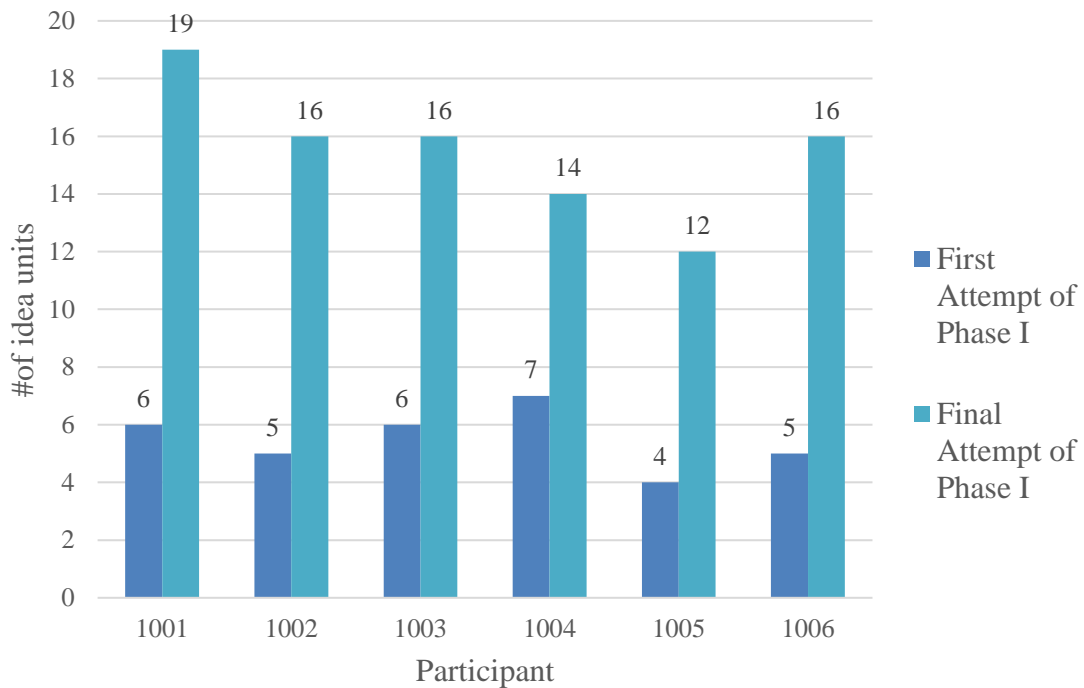
Of the three components of the Content Identification variable (e.g., Episodes, Cultural Characteristics, Behaviors), participants showed the greatest improvement in identification of client Episodes (i.e., salient life events), with an average improvement of 10 episode idea units from the beginning of the workshop ( $M = 5.50$ ,  $SD = 1.05$ ) to the end of the workshop ( $M = 15.50$ ,  $SD = 2.35$ );  $t(5) = 11.18$ ,  $p = .0001$ , 95% CI [7.7, 12.3]. These results, similar to the Total Content Identification variable, are statistically significant at the  $p = .05$  and Bonferroni-corrected  $p = .025$  level. Figure 7 features a visual representation of each participant's improvement in identification of Episode idea units.

## Total Content Identification



**Figure 6.** Total Content Identification per participant between first and final attempts at Phase I of the Thematic Mapping Process

## Content Identification: Episodes

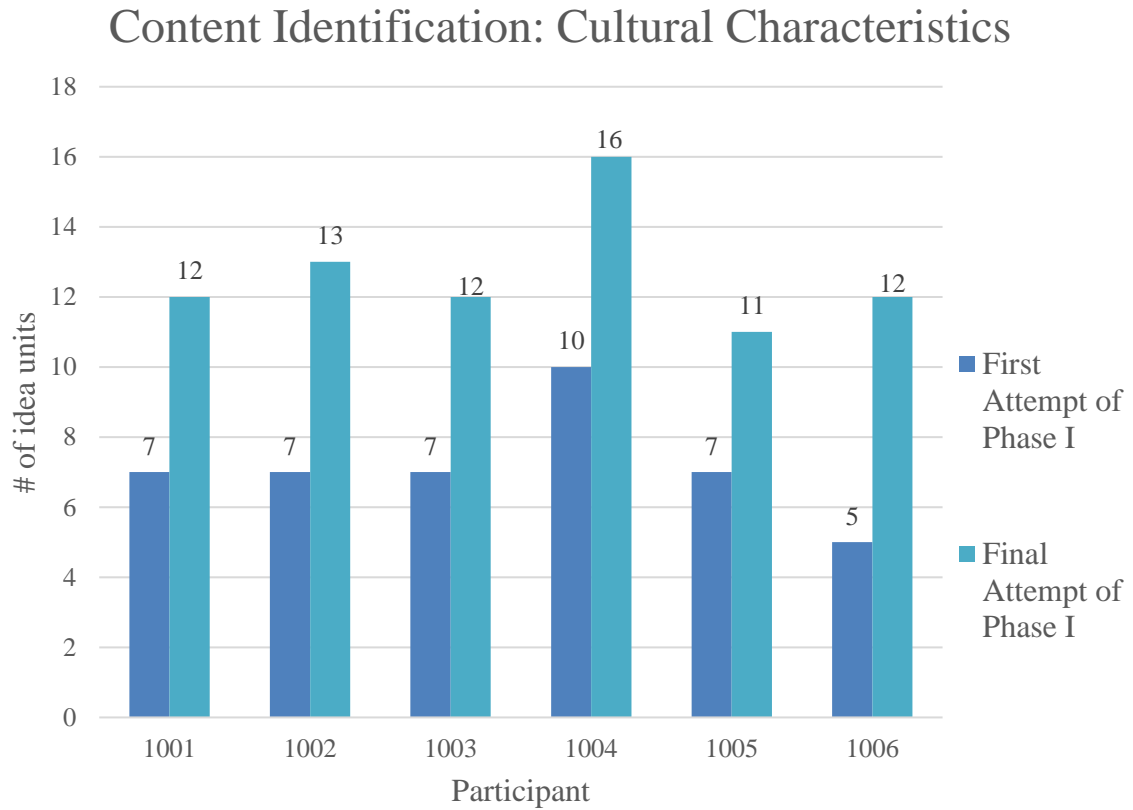


**Figure 7.** Number of Episode idea units identified per participant between first and final attempts at Phase I of the Thematic Mapping Process

Participants' identification of Client Cultural Characteristics yielded a statistically significant improvement at the  $p = .05$  and Bonferroni-corrected  $p = .025$  level, with an average difference of 5.5 from the beginning of the workshop ( $M = 7.17$ ,  $SD = 1.60$ ) to the end of the workshop ( $M = 12.67$ ,  $SD = 1.75$ );  $t(5) = 12.84$ ,  $p = .0001$ , 95% CI [4.4, 6.6]. This finding suggests that participants independently identified more facets related to a client's cultural identity by the end of the Thematic Mapping Workshop.

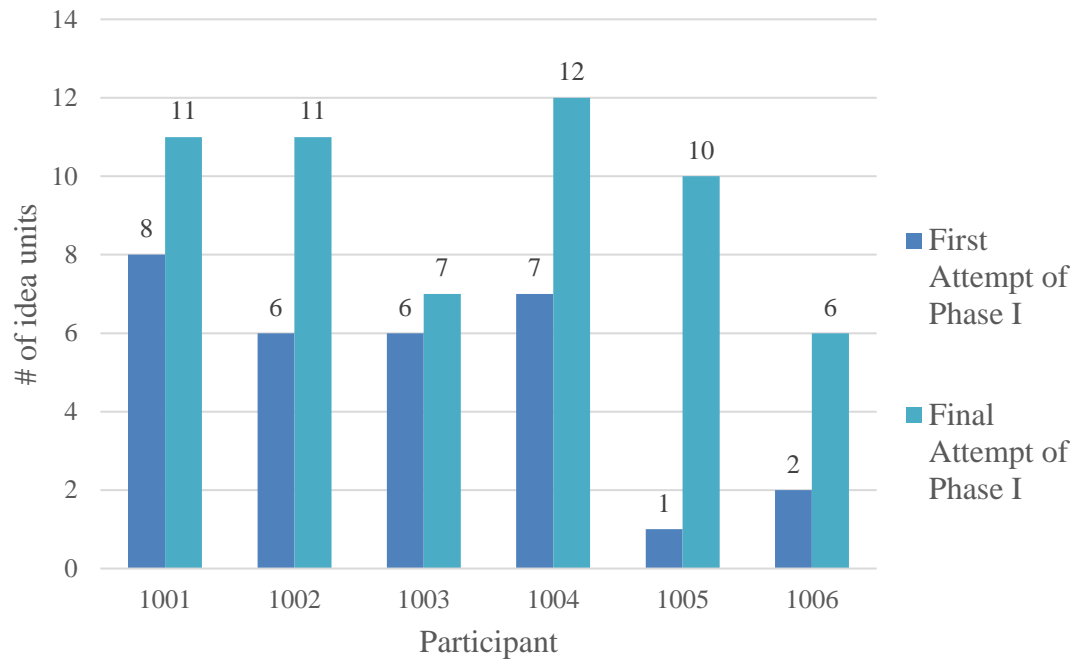
Specifically, participants generally identified more descriptions or notations of a client's race, ethnicity, gender identity, country of origin, disability status (including acquired and chronic disabilities), religious/spiritual adherence (past and/or present), level of acculturation, sexual orientation, level of education, occupational status/beliefs, age, rural health disparities, and client-specific cultural norms, practices or values (ex. emphasis on traditional gender norms, collectivist vs. individualistic cultural practices). Visual representation of each participant's identification of idea units related to client-specific cultural characteristics is found on Figure 8.

Participants exhibited the least improvement on the identification of idea units related to client Behaviors (i.e., repeated client patterns reported by the client and/or exhibited in session), with an average improvement of 4.5. Nevertheless, these results are statistically significant at the  $p = .05$  and Bonferroni-corrected  $p = .025$  level;  $t(5) = 4.14, p = .009, 95\% \text{ CI } [1.7, 7.3]$ . Descriptive analysis of the data indicates that two participants may have served as outliers as one participant exhibited an increase in one Behavior idea unit between the first and final measures (6 Behavior idea units to 7 Behavior idea units, respectively), while another participant exhibited a drastic increase of nine Behavior idea units (from 1 Behavior idea unit to 10 Behavior idea units, respectively). Remaining participants generally increased from 3-5 idea units on the Behavior variable. Visual representation of each participant's improvement in idea units related to client Behaviors is found in Figure 9.



**Figure 8.** Number of Cultural Characteristic idea units identified per participant between first and final attempts at Phase I of the Thematic Mapping Process

## Content Identification: Behaviors



**Figure 9.** Number of Behavior idea units identified per participant between first and final attempts at Phase I of the Thematic Mapping Process

## CHAPTER V

### CONCLUSIONS

The purpose of the present study was to explore the efficacy of Thematic Mapping as a new form of case conceptualization. A training workshop with a group of doctoral trainees in counseling psychology was employed to test the efficacy of the model. In addition, the study serves as the first step towards establishing empirical support for Thematic Mapping as a useful model of case formulation. In this way, the study is intended to advance the vast but confusing existing body of research on case conceptualization as a clinical activity. Results suggest that a training workshop in Thematic Mapping assists trainees in improving case formulation complexity, enhancing standardization in case formulation protocol, identifying critical culturally-attuned client data, and improving the ability to fit client data to overall themes of a client's presenting issues.

### **Research Findings**

#### **Complexity**

Study results provided strong support for the hypothesis that a training workshop in Thematic Mapping for early psychologists-in-training enhances the level of complexity in trainees' case formulations. Compared to their pre-training case formulations, participants' post-training case formulations demonstrated significantly more unique facets of a client's problems and functioning and/or cohesive integration into a meaningful psychological presentation. This finding was descriptively seen

across all six participants of the study.

While comparative research is limited, one study by Kendjelic and Eells (2007) also utilized various variables from the CFCCM to assess differences in case formulation quality between groups of clinicians who either did or did not complete a two-hour training on generic, non-theory bound components of case formulation. Results from this study showed a statistically significant difference between the training group complexity score and the control group. The within-subjects results from this dissertation also reflect this pattern of increased case formulation complexity after a training workshop on transtheoretical case conceptualization was conducted.

### **Systematic Process**

This study found strengthened evidence that trainees used a systematic process in completing their case formulations following the Thematic Mapping Workshop. These results suggest that Thematic Mapping may assist trainees in producing case formulations that are more structured and methodical in design. Descriptively, all six participants exhibited improvement in this variable. Compared to their pre-training case formulations, each participant improved on their systematic process variable either as much or almost as much as they did on the Complexity variable. The difference between the improvement in scores on the Complexity and Systematic Process variables for each participant is presented on Table 5.

These results are consistent with the scientific literature that has utilized both the complexity and systematic process variables of the CFCCM. Eells et al. (2005) found that the systematic process measure correlated most significantly with



elaboration and complexity. This finding suggests that adherence to a systematic formulation process not only results in more detailed and complex formulations, but that some *a priori* development may be required to produce highly complex formulations (Eells et al., 2005).

**Table 5** Difference between score improvements on complexity and systematic process variables

Participant	$\Delta$ Complexity	$\Delta$ Systematic Process	Difference
1001	+3.5	+3.0	0.5
1002	+1.0	+1.0	--
1003	+4.0	+4.0	--
1004	+2.0	+2.0	--
1005	+3.5	+3.0	0.5
1006	+2.5	+3.0	0.5

Unlike the current study that used a homogeneous sample, Eells et al. (2005) investigated differences in case formulation quality between novice, experienced, and expert therapists who were asked to “think aloud” their conceptualizations of clients based on vignettes. While this study differed in methodological design and sample size, the written post-training case formulations in this dissertation demonstrated more systematic structure than the oral case formulations produced by experts in Eells et al. (2005)’s study. This finding is noteworthy in that the participants in this dissertation

each were in their second semester of conducting psychotherapy whereas participants in Eells and colleagues' study were expert clinicians and scholars in case conceptualization. This difference was also true when comparing the post-Thematic Mapping Workshop performance of participants in this study to the novice group of practitioners of Eells et al. (2005)'s study.

### **Thematic Goodness-of-Fit**

Study results found significant support for increased goodness-of-fit from client data to respective overarching theme(s) and sub-themes across the workshop. These results suggest that this method of training of the Thematic Mapping model enhances trainees' ability to carry out the process of Thematic Mapping. Additionally, training in Thematic Mapping may assist trainees in better fitting client information into their overarching conceptualization of the client's presenting complaint in light of the client's history, behavior patterns, and cultural characteristics. As stated in the prior section, five participants exhibited descriptive improvement in this variable, while a sixth participant achieved the highest score on the variable both on the first and final attempt. This suggests that some individuals might more quickly adopt the process of Thematic Mapping. It is also of note that five of the six participants achieved the highest possible score on this variable on their final attempt at the Thematic Mapping process.

### **Content Identification**

Study results strongly support the hypothesis that participants would exhibit increased ability to recognize more critical client content in the Thematic Mapping

process, including salient life events, behavior patterns, and cultural characteristics. This suggests that a workshop in Thematic Mapping may assist trainees in identifying critical client content for a formal case formulation. Improvement in content identification was evident across all participants and sub-contents; that is, all six participants exhibited improvement in their ability to identify more client episodes, cultural traits, and behaviors, with the most notable improvement in the identification of episodes.

### **Interpretation of Findings**

This dissertation aimed to measure the efficacy of Thematic Mapping as a form of case conceptualization via a training workshop, which was assessed by measuring the quality and level of holistic consideration in case formulations. As described in previous sections of this dissertation, research suggests that such features in a case conceptualization generally leads to a heightened clinical understanding of clients' functioning and a clearer focus on how to guide treatment planning. However, efficacy of Thematic Mapping as a therapeutic intervention was not directly measured in this study.

This point is underscored due to the concern of double inference as outlined by Ridley et al. (2011). The intervention in this study was not client-targeted, utilized in therapy, and assessed using therapeutic outcomes, but rather was training-oriented, targeted counseling trainees, and evaluated resulting competence in case formulation. As a result, the interpretation of these findings falls within the scope of the outcome of the workshop.

One of the most important interpretations of these findings is that Thematic Mapping, as introduced in a workshop, is a teachable model of case formulation. That is, instruction in Thematic Mapping as broken into nine units is effective in successfully teaching participants the four phases of the process, as well as improving case formulation quality and inclusiveness. In addition, findings suggest that instruction in Thematic Mapping is effective for psychology trainees very early in their clinical training and, consequently, are still gaining an understanding of psychopathology, therapeutic interventions, and theories of client functioning. This suggests that a thorough understanding of the change process, established theoretical orientation, years of practice and training, and/or prior expertise in case formulation is not required to learn and implement Thematic Mapping successfully.

Findings also indicate that the way in which Thematic Mapping was taught was effective. This method of instruction specifically introduced a variety of activities beyond didactic instruction, reading articles, and practicing the model with real client data in supervision. Such activities that emphasized alternative ways of learning outside of a traditional lecture-style workshop included movie clips, art exercises, group quizzes, reflective worksheets, role plays, and brainstorming entertaining personal metaphors unrelated to clinical work. Providing a short didactic lesson about various components of Thematic Mapping before participants were asked to read published articles on the subject may also have contributed to these positive outcomes.

Thematic Mapping purports to be a client-centered, collaborative, and process-oriented method of case conceptualization, indicating that case formulations target

individual client needs, allow for feedback and corroboration from the client, and be subject to modifications as therapy continues. Findings from the Thematic Mapping Workshop suggest that the successful instruction of Thematic Mapping is characterized by the method in which the model is implemented in session with clients. In other words, the Thematic Mapping Workshop is practitioner-centered, feedback-oriented, and subject-to-modification as training progresses.

The practitioner-centered focus of the Thematic Mapping Workshop may be interpreted from the improvement in scores across all six participants despite differences in levels of education and preferred styles of instruction. The wide variety of activities utilized in the workshop also facilitated the utilization of participants' individual strengths and interests, such as opportunities for creativity, components from popular culture, and verbal group collaboration. It may be of note that the workshop also targeted several of the concerns outlined by participants during the art activity that occurred on the first day of training which asked them to illustrate what can occur in the therapeutic process when a case formulation is not present. This included concern that a clinician might only listen to one part of the client's problems, fear that they might become "lost" in the therapeutic process, and feelings of confusion and self-doubt. In the process of instruction of Thematic Mapping, holistic data collection, comprehensive aggregation of information, clear structure, and clarity in conceptualization were emphasized in addressing these concerns.

Findings from this study suggest that this workshop is structured and systematic, yet can also be flexible; this is aided by the feedback-oriented nature of the

workshop. That is, the instruction of Thematic Mapping can be adaptable to meet students' needs, particularly by providing them with opportunities to identify where additional focus is needed. In this study, such needs included spending extra time on practicing Behavior-Episodes and pattern identification with one particular client and further demonstrating how to gather such information in a session. This reduces rigidity in the training of Thematic Mapping that might otherwise place some trainees at risk for underdeveloped understanding of certain areas of the model. Perhaps most importantly, such adaptability not only upholds the process-oriented trait of Thematic Mapping in clinical and training work, but also assists in the long-term goal of establishing a method of case formulation that clinicians of any level of expertise and training can use to similar effect.

### **Implications for Future Research and Therapy**

Results from this proof of concept study exhibit promise for future follow-up studies on Thematic Mapping as a clinical activity. While a within-group analysis was a beneficial design for initial exploration of the efficacy of Thematic Mapping, a between-group analysis utilizing a control group would likely serve as an important and interesting next step for future research. Utilizing a control group and additional treatment group trained in an alternative model of case formulation would also be an exciting direction for the future. Certainly, a larger sample size and increased amount of data collection is also a desirable focus in future studies, particularly as both may assist in achieving higher statistical power and accommodate a more reliable analysis of effect sizes.

A controlled instructional setting that allowed for the accommodation of individual participants' training needs was desirable for this proof of concept study. However, as Thematic Mapping is intended for use in a variety of settings that are not controlled, exploration of the effects of instruction on Thematic Mapping in alternative situations (e.g., hospitals, private practice, schools) and practitioners (i.e., licensed psychologists, postdoctoral or early-career psychologists, psychologists who practice individually versus a group practice), is certainly of interest. Studies that explore Thematic Mapping with a wider variety of levels of training and expertise, short-term therapy, and other therapeutic modalities such as couples, family, and group therapy could be critical foci of future research. Therapeutically, such research would allow for the examination of efficacy with a wider variety of clients, clinicians, and researchers.

An additional direction of research with therapeutic implications that is based more closely on the findings of this study is the creation of a manual that explicitly details how Thematic Mapping can be implemented in a therapy and/or training setting. As Thematic Mapping aims to become a standardized method of case formulation, making a specific, systematic protocol available to all clinicians would likely serve as an additional contribution to future research on Thematic Mapping and case formulation. Such a manual may also assist with establishing stronger psychometric properties for Thematic Mapping, including establishing reliability and validity as encouraged by scientific literature on case formulation (Eells, 2009; Grove et al., 2000; Kazdin, 2008; Meehl, 1954).

Similarly, a manual may facilitate explorations of alternative training methods that still utilize standardized Thematic Mapping protocol. This includes exploring whether shortened training sessions or training adapted to heightened levels of expertise in case formulation would achieve the same level of efficacy as the training duration and protocol utilized in this dissertation. Relatedly, this study did not track client progress and treatment outcomes as more detailed, culture-centric case formulations are formed. This would be another exciting direction of future research assisted by the availability of a standardized training manual, particularly as measures of the impact of case formulation on therapeutic outcomes is understudied.

An additional implication for this study could be the further exploration of research on the CFCCM as adapted for Thematic Mapping. In addition, identifying more ways to measure cultural consideration in case formulation would serve as an important direction for future research and therapy. A follow-up study utilizing the data from this study that specifically assesses how culture was integrated into final case conceptualizations, specifically beyond the identification of cultural information and descriptive data, may be a worthwhile pursuit for the future. This could include an analysis of how a client's cultural background was utilized in the identification of client episodes, behaviors, patterns, and overall conceptualization.

### **Limitations**

#### **Methodology**

A clear and significant limitation of this study was the sample size and limited amount of collected data; while the study still exhibited statistically significant results



despite this, the small size of the sample and within-subjects design undoubtedly limits the generalizability of findings. The controlled nature of the setting in which the study took place (i.e., a consistent workshop in a training setting with consistent attendance from participants) also limits the generalizability. Additionally, this study did not contain a control group, such as a comparison group for trainees who were not exposed to a training workshop in case conceptualization or a received identical training structure in an alternative model of case formulation. This makes it impossible to discern if the significant improvement in case conceptualization seen across the workshop on Thematic Mapping would differentiate from a between-groups comparison to a group not exposed to a workshop or a group exposed to the same structure of the workshop but utilizing an alternative method of case conceptualization.

An additional limitation was the adaptation of the CFCCM variables to apply to Thematic Mapping, a specific model of case formulation. This included modifications to the operational definition and/or scoring criteria for the Complexity, Systematic Process, and Thematic Goodness-of-Fit variables. The adaptations for the former two variables were relatively minimal, with the main alteration of the Complexity variable largely including a more explicit definition of the term “facets.” For Systematic Process, the main alteration was an increased emphasis that case formulations that “look alike” is not sufficient criteria to determine that a systematic process occurred in carrying out the formulations; rather, there must be evidence in both formulations that “meaning making” occurred and is not just an aggregated list of disparate client information.

The Thematic Goodness-of-Fit variable differed most significantly from the CFCCM Goodness-of-Fit variable. This was particularly in the content the former uses to determine the variable's value (i.e., a worksheet featuring a break-down of a case formulation rather than a formal, fluid conceptualization). While interrater reliability on this latter variable ranged from moderate-to-excellent, further statistical investigation of this modified variable is recommended with raters outside of Thematic Mapping's progenitors.

It is also of note that I was repeatedly exposed to participants' "first attempt" on the Thematic Goodness-of-Fit variable during the workshop and prior to scoring. For this reason, scoring this variable occurred after a prolonged amount of time had passed (approximately 11 months) with all data deidentified and randomized. Despite my exposure to the "first attempt" and possible subsequent bias, it is of note again that interrater reliability remained strong despite Dr. Ridley's lack of exposure to the data in either phase prior to scoring.

### **Implementation**

Participants completed all activities asked in the workshop; however, questions about trainees' fidelity to the reading assignments, amount of focus provided to the "homework," and ability to complete the final assignments post-workshop are merited. This latter question is of particular concern for the participant who failed to complete one of their final case conceptualizations. Of course, fatigue while completing these final activities must be accounted for in this situation as well, as carrying out two full case formulations in addition to writing out each phase of the Thematic Mapping

process may understandably be cognitively demanding.

It is also important to consider the influence of prior exposure to information measured in this dissertation. While the raters of the Complexity and Systematic Process variables were blinded to the purpose of the study and not exposed to Thematic Mapping's conceptual framework or process prior to CFCCM training, it is possible that they were primed by knowing the Thematic Mapping model existed in the first place. That is, being aware of Thematic Mapping as a model of case conceptualization may have influenced how the raters studied and interpreted the coding methodology. Raters with no awareness of Thematic Mapping may have approached this scoring differently.

Additionally, participants in this study had prior relationships with each other as they were each in a similar stage of clinical training. Participants also encountered the lead investigator in different settings prior to the workshop, such as a classroom setting. This may have resulted in a desirability bias or various demand characteristics in participants' performance and level of participation or investment in the workshop.

It was also impossible to control for factors outside of the workshop. This includes one participant's mandatory travel (subsequently missing a group lesson and requiring a one-on-one "make up" instruction); one participant missing the start of a lesson due to a test in a previous class running long; and one participant failing to complete their "first attempt" at Thematic Mapping for the Thematic Goodness-of-Fit variable during the workshop due to needing to see a client. In these instances, feasibility of students' ability to complete all workshop activities while managing other

academic coursework, research conferences, and heavy client caseloads was a mandatory consideration in implementation of the workshop. Despite the impact this may have had on the study's results, I argue that this is an understandable limitation that also mirrors the real-life interferences all practitioners typically experience due to other demanding clinical activities.

Overall, there are many important limitations to consider in this study. However, this initial analysis of the efficacy of Thematic Mapping with psychology trainees holds promise for future research and implications for therapeutic treatment. Ideally, this study serves as the first step in a series of future research on the model, with the continued hope of moving the field of psychology towards a closer standard of health care with increased cultural consideration in treatment. At present, however, this dissertation hopes to serve as a notable step for research on case conceptualization as a clinical activity and an exciting leap for those of the Thematic Mapping kind.

## REFERENCES

- Aggarwal, N. K., Nicasio, A. V., DeSilva, R. Boiler, M., & Lewis-Fernández, R. (2013).  
Barriers to implementing the DSM-5 Cultural Formulation Interview: A  
descriptive study. *Culture, Medicine, and Psychiatry*, 37(3), 505-533.  
doi:10.1007/s11013-013-9325-z.
- American Psychiatric Association (2013). Diagnostic and statistical manual of mental  
disorders (5th ed.). Washington, DC: American Psychiatric Association.
- American Psychological Association (2002). *Guidelines on Multicultural Education,  
Training, Research, Practice and Organizational Change for Psychologists*.  
Washington, DC: American Psychological Association.
- American Psychological Association (2006). *APA Task Force on the Assessment of  
Competence in Professional Psychology: Final Report*. Washington, DC:  
American Psychological Association.
- Association for Contextual Behavioral Science (2016). *Metaphors*. Retrieved from:  
<https://contextualscience.org/metaphors>.
- Arkes, H. R., & Blumer, C. (1985). The psychology of sunk cost. *Organizational  
Behavior And Human Decision Processes*, 35(1), 124-140.  
doi:10.1016/0749-5978(85)90049-4
- Baughman, S. (2012). Think backward to write meaningful metaphors [Web log  
post]. Retrieved from <https://writeitsideways.com/think-backward-to-write-meaningful-metaphors/>

- Ben-Aron, M., & McCormick, W. O. (1980). The teaching of formulation: Facts and deficiencies. *Canadian Journal of Psychiatry*, 25, 163–166. PMID: 7407738
- Berman, P. S. (2015). *Case conceptualization and treatment planning: Exercises for integrating theory with clinical practice* (3<sup>rd</sup> ed.). Thousand Oaks, CA: Sage Publications.
- Belter, R. D., Duer, J. D., & Stanny C. (1999). Clinical judgments regarding involuntary commitment: A comparison of mental health professions. *Journal of Psychological Practice*, 5, 32-38.
- Bieling, P. J., & Kuyken, W. (2003). Is cognitive case formulation science or science fiction? *Clinical Psychology: Science and Practice*, 10(1), 52-69.  
doi:10931clipsy.10.1.52
- Blavatsky, P., & Hordijk, L. (2003). Content-dependent preferences in choice under risk: Heuristic of relative probability comparisons. *International Institute for Applied Systems Analysis. Interim Report*, 3-31.
- British Psychological Society Division of Clinical Psychology. (2011). Good practice guidelines on the use of psychological formulation. Leicester, UK: British Psychological Society Division of Clinical Psychology.
- Bruch, M., & Bond, F. W. (1998). *Beyond diagnosis: Case formulation approaches in CBT*. Chichester, West Sussex: Wiley.
- Campbell, W. H., & Rohrbaugh, R. M. (2006). *The biopsychosocial formulation manual: A guide for mental health professionals*. New York, NY: Routledge.

- Carroll, J. S. (1978). The effect of imagining an event on expectations for the event: An interpretation in terms of the availability heuristic. *Journal of Experimental Social Psychology, 14*(1), 88-96. doi:10.1016/0022-1031(78)90062-8
- Clark, B. (2007). Become a master of metaphor and multiply your blogging effectiveness. Retrieved from <https://www.copyblogger.com/become-a-master-of-metaphor-and-multiply-your-blogging-effectiveness/>
- Clark, D. A. (1999). Case conceptualization and treatment failure: A commentary. *Journal of Cognitive Psychotherapy, 13*, 331-337.
- Dougherty, J. L. (2005). Ethics in case conceptualization and diagnosis: Incorporating a Medical Model into the developmental counseling tradition. *Counseling and Values, 49*, 132-140. doi:10.1002/j.2161-007X.2005.tb00259.x
- Dudley, R., Park, I., James, I., & Dodgson, G. (2010). Rate of agreement between clinicians on the content of a cognitive formulation of delusional beliefs: The effect of qualifications and experience. *Behavioural and Cognitive Psychotherapy, 38*, 185-200. doi:10.1017/S1352465809990658
- Eells, T. D. (2007). History and current status of psychotherapy case formulation. In T.D. Eells (Ed.), *Handbook of psychotherapy case formulation*. New York, NY: Guilford Press.
- Eells, T. D. (2009). Contemporary themes in case formulation. In P. Sturmey (Ed.), *Clinical case formulation: Varieties of approaches* (pp. 293-315). Chichester, West Sussex: Wiley.

- Eells, T. D. (2017). Thematic Mapping maps much territory but needs stronger evidence-base coordinates: A Commentary. *Journal of Clinical Psychology*, 73(4), 425-438. doi:10.1002/jclp.22433
- Eells, T. D., Kendjelic, E. M., & Lucas, C. P. (1998). What's in a case formulation?: Development and use of a content coding manual. *The Journal of Psychotherapy Practice and Research*, 7(2), 144-153. PMCID: PMC3330487
- Eells, T. D., Kendjelic, E. M., Lucas, C. P., & Lombart, K. G. (n. d.). *Manual for Case Formulation and Treatment Plan Coding*.
- Eells, T. D., Lombart, K. G., Kendjelic, E. M., Turner, L. C., & Lucas, C. P. (2005). The quality of psychotherapy case formulations: A comparison of expert, experienced, and novice cognitive-behavioral and psychodynamic therapists. *Journal of Consulting and Clinical Psychology*, 73(4), 579-589. doi:10.1037/0022-006X.73.4.579
- Ægisdóttir, S., White, M. J., Spengler, P. M., Maugherman, A. S., Anderson, L. A., Cook, R. S., ... & Rush, J. D. (2006). The meta-analysis of clinical judgment project: Fifty-six years of accumulated research on clinical versus statistical prediction. *The Counseling Psychologist*, 34(3), 341-382. doi:1177/0011000005285875
- Ellis, M. V., Hutman, H., & Deihl, L. M. (2013). Chalkboard case conceptualization: A method for integrating clinical data. *Training and Education in Professional Psychology*, 7(4), 246-256. doi:10.1037/a0034132



- Falvey, J. E., Bray, T. E., & Hebert, D. J. (2005). Case conceptualization and treatment planning: Investigation of problem-solving and clinical judgment. *Journal of Mental Health Counseling*, 27, 348-372. doi:10.1037/a0034132
- Fauth, J., Gates, S., Vinca, M. A., Boles, S., & Hayes, J. A. (2007). Big ideas for psychotherapy training. *Psychotherapy: Theory, Research, Practice, Training* 44, 384-391. doi:10.1037/0033-3204.44.4.384
- Fernyhough, C. (2006). Metaphors of mind. *The Psychologist*, 19(6), 356-358.
- Fiedler, K. (1996). Explaining and simulating judgment biases as an aggregation phenomenon in probabilistic, multiple-cue environments. *Psychological Review*, 103(1), 193-214. doi:10.1037/0033-295X.103.1.193
- Fleming, J. A., & Patterson, P. G. (1993). The teaching of case formulation in Canada. *Canadian Journal of Psychiatry*, 38, 345-350. PMID: 8348475
- Flitcroft, A., James, I. A., Freeston, M., & Wood-Mitchell, A. (2007). Determining what is important in good case formulation. *Behavioural and Cognitive Psychotherapy*, 35, 325-333. doi:10.1017/S135246580600350X
- Garb, H. N., & Schramke, C. J. (1996). Judgment research and neuropsychological assessment: A narrative review and meta-analyses. *Psychological Bulletin*, 120(1), 140-153. doi:10.1037/0033-2909.120.1.140
- Gentner, D., & Grudin, J. (1985). The evolution of mental metaphors in psychology: A 90-year retrospective. *American Psychologist*, 40(2), 181-192. doi:10.1037/0003-066X.40.2.181

- Grove, W. M., Zald, D. H., Hallberg, A.M., Lebow, B. S., Snitz, B. E., & Nelson, C. (2000). Clinical versus mechanical prediction: A meta-analysis. *Psychological Assessment, 12*(1), 19-30. doi:http://dx.doi.org/10.1037/1040-3590.12.1.19
- Guerrero, A. P. S., Hishinuma, E. S., Serrano, A. C., & Ahmed, I. (2003). Use of mechanistic case diagramming technique to teach the biopsychosocial-cultural formulation to psychiatric clerks. *Academic Psychiatry, 28*, 88-94. doi:10.1176/appi.ap.27.2.88
- Hallam, R. S. (2013). *Individual case formulation*. Boston, MA: Academic Press.
- Hoffrage, U., Hertwig, R., & Gigerenzer, G. (2000). Hindsight bias: A by-product of Knowledge updating? *Journal of Experimental Psychology: Learning, Memory, And Cognition, 26*(3), 566-581. doi:10.1037/0278-7393.26.3.566
- Honos-Webb, L., & Leitner, L. M. (2001). How using the DSM causes damage: A client's report. *Journal of Humanistic Psychology, 41*(4), 36-56. doi:10.1177/0022167801414003
- Jeffrey, C. E., & Ridley, C. R. (2016). *Case Formulation Content Coding Method (CFCCM) Coding Manual Adapted for Thematic Mapping*.
- Jeffrey, C. E., & Ridley, C. R. (2017). A case conceptualization using Thematic Mapping. *Journal of Clinical Psychology, 73*(4), 410-424. doi:10.1002/jclp.22352
- Johnstone, L. (2014). Controversies and debates about formulation. In L. Johnstone and R. Dallos (Eds.), *Formulation in psychology and psychotherapy: Making sense of people's problems* (2<sup>nd</sup> ed., pp. 261-289). New York, NY: Routledge.

- Kazdin, A. E. (2008). Evidence-based treatment and practice: New opportunities to bridge clinical research and practice, enhance the knowledge base, and improve patient care. *American Psychologist*, 63, 146-159.  
doi:10.1037/0003-0664.63.3.146
- Kendjelic, E. M., & Eells, T. D. (2007). Generic psychotherapy case formulation training improves formulation quality. *Psychotherapy: Theory, Research, Practice, Training*, 44(1), 66-77. doi:10.1037/0033-3204.44.1.66
- Kinderman, P., & Tai, S. (2007). Empirically grounded clinical interventions: Clinical implications of a psychological model of mental disorder. *Behavioural and Cognitive Psychotherapy*, 35, 1-14. doi:10.1017/S1352465806003274
- Koerner, K. (2007). Case formulation in Dialectic Behavior Therapy for borderline personality disorders. In T.D. Eells (Ed.), *Handbook of psychotherapy case formulation* (pp. 317-348). New York, NY: Guildford Press.
- Koo, T. K., & Li, M. Y. (2016). A guideline of selecting and reporting intraclass correlation coefficients for reliability research. *Journal of Chiropractic Medicine*, 15(2), 155-163. doi:http://dx.doi.org/10.1016/j.jcm.2016.02.012
- Kruglanski, A. W., & Freund, T. (1983). The freezing and unfreezing of lay-inferences: Effects on impression primacy, ethnic stereotyping, and numerical anchoring. *Journal of Experimental Social Psychology*, 19(5), 448-468.  
doi:10.1016/0022-1031(83)90022-7
- Kuyken, W., Fothergill, C. D., Musa, M., & Chadwick, P. (2005). The reliability and Quality of cognitive case formulation. *Behaviour Research and Therapy*, 43(9),

1187-1201. doi:10.1016/j.brat.2004.08.007

Lazare, A. (1976). The psychiatric examination in the walk-in clinic: Hypothesis generation and hypothesis testing. *Archives of General Psychiatry*, 33, 96-102. doi:10.1001/archpsyc.1976.01770010060012.

Lee, D. L., & Tracey, T. J. (2008). General and multicultural case conceptualization skills: A cross-sectional analysis of psychotherapy trainees. *Psychotherapy: Theory, Research, Practice, Training*, 45, 507-522. doi:10.1037/a0014356

Levin, I. P., Schneider, S. L., & Gaeth, G. J. (1998). All frames are not created equal: A Typology and critical analysis of framing effects. *Organizational Behavior and Human Decision Processes*, 76(2), 149-188. doi:1040-726X9710900-0221

Lichtenberg, J. W. (1997). Expertise in counseling psychology: A concept in search of support. *Educational Psychology Review*, 9, 221-238. doi:10.1023/A:1024783107643

Mace, C., & Binyon, S. (2005). Teaching psychodynamic formulation to psychiatric trainees: Part I: Basics of formulation. *Advances in Psychiatric Treatment*, 11, 416-423. doi:10.1192/apt.11.6.416

Markowitz, J. C., & Swartz, H. A. (1997). Case formulation in interpersonal psychotherapy of depression. In T. D. Eells (Ed.), *Handbook of psychotherapy case formulation* (pp. 192-222). New York, NY: Guildford Press.

McClain, T., O'Sullivan, P. S., & Clardy, J. A. (2004). Biopsychosocial formulation: Recognizing educational shortcoming. *Academic Psychiatry*, 28, 88-94. doi:10.1176/appi.ap.28.2.88

- McWilliams, N. (1999). *Psychoanalytic Case Formulation*. New York, NY: Guildford Press.
- Meehl, P. (1954). *Clinical vs. statistical prediction: A theoretical analysis and a review of the evidence*. Minneapolis, MN: University of Minnesota Press.
- Mind Tools Contact Team (n.d.). Metaphorical thinking: Using comparisons to express ideas and solve problems. Retrieved from [https://www.mindtools.com/pages/article/newCT\\_93.htm](https://www.mindtools.com/pages/article/newCT_93.htm)
- Moffett, P., & Moore, G. (2011). The standard of care: Legal history and definitions: the bad and good news. *Western Journal of Emergency Medicine*, 12(1), 109-112.
- Moore, D. A., & Healy, P. J. (2008). The trouble with overconfidence. *Psychological Review*, 115(2), 502-517. doi:10.1037/0033-29X.115.2.502
- Moore, S. R., Smith, R. E., & Gonzalez, R. (1997). Personality and judgment heuristics: Contextual and individual difference. *The Society for Personality and Social Psychology*, 23(1), 76-83. doi:10.1177/0146167297231008
- Murdock, N. L. (1991). Case conceptualization: Applying theory to individuals. *Counselor Education and Supervision*, 30, 355-365. doi:10.1002/j.1556-6978.1991.tb01216.x
- Nezu, A. M., Nezu, C. M., & Lombardo, E. (2004). *Cognitive-Behavioral case formulation and treatment design: A problem-solving approach*. New York, NY: Springer.
- Perry, S., Cooper, A. M., & Michels, R. (1987). The psychodynamic formulation: Its purpose, structure, and clinical application. *American Journal of Psychiatry*,

144(5), 543-550. doi:10.1176/foc.4.2.297

Persons, J. B. (2008). *The case formulation approach to cognitive-behavior therapy*.

New York, NY: Guilford Press.

Persons, J., Mooney, K., and Padesky, C. (1995). Interrater reliability of cognitive-behavioural case formulations. *Cognitive Therapy and Research*, 19, 21-34.

doi:10.1007/BF02229674

Persons, J. B., & Tompkins, M. A. (2007). Cognitive-Behavioral case formulation. In T. D. Eells (Ed.), *Handbook of psychotherapy case formulation* (pp. 290-316).

New York, NY: Guildford Press.

Pilipis, L. A. (2010). *Meta-analysis of the relation between mental health professionals' clinical and educational experience and judgment accuracy: Review of clinical judgment research from 1997 to 2010*. (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses. (AAT 3438776).

Reiss, S., Levitan, G. W., & Szyszko, J. (1982). Emotional disturbance and mental retardation: Diagnostic overshadowing. *American Journal of Mental Deficiency*, 86, 567-574.

Ridley, C. R. & Jeffrey, C. E. (2017a). Thematic Mapping in case conceptualization: An introduction to the special section. *Journal of Clinical Psychology*, 73(4), 353–358. doi:10.1002/jclp.22355

Ridley, C. R. & Jeffrey, C. E. (2017b). The conceptual framework of Thematic Mapping in case conceptualization. *Journal of Clinical Psychology*, 73(4), 376–392. doi:10.1002/jclp.22353

- Ridley C. R., Jeffrey, C. E., & Roberson, R. B. (2017a). Case Mis-Conceptualization in Mental Health Treatment: An Enduring Clinical Problem. *Journal of Clinical Psychology, 73*(4), 359–375. doi:10.1002/jclp.22354
- Ridley, C. R., Jeffrey, C. E., & Roberson, R. B. (2017b). *The Process of Thematic Mapping in Case Conceptualization. Journal of Clinical Psychology, 73*(4), 393–409. doi:10.1002/jclp.22351
- Ridley, C. R., Mollen, D., & Kelly, S. M. (2011). Beyond microskills toward a model of counseling competence. *The Counseling Psychologist, 39*(6), 825-864. doi:10.1177/00110000010378440
- Riskind, J. H., & Williams, N. L. (1999). Cognitive case conceptualization and treatment of anxiety disorders: Implications of the looming vulnerability model. *Journal of Cognitive Psychotherapy, 13*(4), 295-315. doi:10.1037/0735-7028.36.4.347
- Schwitzer, A. M. (1996). Using the inverted pyramid heuristic in counselor education and supervision. *Counselor Education and Supervision, 35*(4), 258-267. doi:10.1002/j.1556-6978.1996.tb01927.x
- Schwitzer, A. M., & Rubin, L. C. (2015). Clinical thinking skills: Diagnosis, case conceptualization, and treatment planning. In A. M. Scheitzer & L. C. Rubin (Eds.), *Diagnosis and treatment planning skills: A popular culture casebook approach (DSM-5 update)*, 2<sup>nd</sup> Edition (pp. 13-30). Thousand Oaks, CA: Sage Publications.

- Sim, K., Gwee, K. P., & Bateman, A. (2005). Case formulation in psychotherapy: Revitalizing its usefulness as a clinical tool. *Academic Psychiatry*, 29, 289–292. doi:10.1176/appi.ap.29.3.289
- Simms, J. (2011). Case formulation within a person-centered framework: An uncomfortable fit. *Counselling Psychology Review*, 26, 24-36.
- Spengler, P. M., White, M. J., Ægisdóttir, S., Maugherman, A. S., Anderson, L. A., Cook, R. S., & Rush, J. D. (2009). The meta-analysis of clinical judgment project effects of experience on judgment accuracy. *The Counseling Psychologist*, 37(3), 350-399. doi:10.1177/0011000006295149
- Sperry, L., Gudeman, J. E., Blackwell, B., & Faulkner, L. R. (1992). *Psychiatric case formulations*. Arlington, VA: American Psychiatric Association.
- Stanny, C. J., Belter, R. W., & Duer, J. D. (1999). *Involuntary commitment decisions: Effects of mental health training and legal empowerment status*. Manuscript submitted for publication.
- Stinson, C. H., Milbrath, C. M., Reidbord, S., & Bucci, W. (1994). Thematic segmentation of psychotherapy transcripts for convergent analyses. *Psychotherapy*, 31, 36–48. <http://dx.doi.org/10.1037/0033-3204.31.1.36>
- Sturmey, P. (2009). Case formulation: A review and overview of the volume. In P. Sturmey (Ed.), *Clinical case formulation: Varieties of approaches* (pp. 3-30). Chichester, West Sussex: Wiley.
- Summers, R. F. (2003). The psychodynamic formulation updated. *American Journal of Psychotherapy*, 57(1), 39-51.



- Tarrier, N. (2006). *Case formulation in Cognitive Behavior Therapy: The treatment of challenging and complex cases*. London, UK: Routledge.
- Tetlock, P. E. (1985). Accountability: A social check on the fundamental attribution error. *Social Psychology Quarterly*, 227-236. doi:10.2307/3033683
- Tompkins, M. A. (1999). Using a case formulation to manage treatment nonresponse. *Journal of Cognitive Psychotherapy*, 13(4), 317-330.
- Turkat, I. D. (1985). *Behavioral case formulation*. New York, NY: Pergamon.
- Tversky, A., & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. *Science*, 185, 1124-1131. doi:10.1126/science.185.4157.1124
- Wason, P. C. (1960). On the failure to eliminate hypotheses in a conceptual task. *Quarterly Journal of Experimental Psychology*, 12(3), 129-140. doi:10.1080/17470216008416717
- Weerasekera, P. (1996). *Multiperspective case formulation: A step toward treatment integration*. Malabar, FL: Krieger.
- Wittman, C. L., Weiss, D. J., & Metzmacher, M. (2012). Assessing diagnostic expertise of counselors using the Cochran–Weiss–Shanteau (CWS) index. *Journal of Counseling and Development*, 90(1), 30-34. doi:10.1111/j.1556-6676.2012.00005.x

## APPENDIX A

### LIST OF JUDGMENTAL AND INFERENTIAL ERRORS MODIFIED FROM

RIDLEY ET AL. (2017A)

Judgmental and Inferential Errors	Definition	Reference
Anchoring Effects	The tendency to allow an initial hypothesis to have an undue influence on subsequent hypotheses. For example, a clinician believes a client has depression and will only consider alternative hypotheses related to depression.	Tversky & Kahnemann (1974)
Adjustment Effects	The tendency for clinicians to restrict the type of alternative hypothesis they consider because of the anchor they select.	Tversky & Kahnemann (1974)
Availability Heuristics	The tendency for clinicians to believe that something is more common because it is easy for them to think about or come up with examples.	Carroll (1978)
Confirmatory Bias	The tendency to look for information that confirms hypotheses while neglecting to look for information that disconfirms their hypothesis.	Wason (1960)
Content Dependence	The tendency to let the addition or subtraction of irrelevant information influence the decision a clinician reaches.	Blavatskyy & Hordijk (2003)
Diagnostic Overshadowing	The tendency to inaccurately diagnose or fail to detect a comorbid psychiatric disorder. For example, clinicians are less accurate in diagnosing comorbid conditions with individuals with a developmental disability when compared to individuals without a developmental disability.	Reiss, Lecitan, Szysko (1992)
Framing Effects	The tendency to allow the way information is presented (e.g., positive or negative; gain or loss) to influence the decision they make. For example, how information is written in a client's chart can affect how the client is perceived.	Levin, Schneider, & Gaeth (1998)

Fundamental Attribution Error	The tendency to attribute events or behaviors to internal causes, personal characteristics, or dispositional causes rather than an external or situational cause.	Tetlock (1985)
Hindsight Bias	The tendency of individuals to use feedback data to recall information that matches more closely to the outcome rather than their original response.	Hoffrage, Hertwig, & Gigerenzer (2000)
Illusory Correlation	The tendency to perceive a correlation where one does not exist. For example, assuming a correlation between ethnic minorities and psychotic disorders.	Fiedler (1996)
Insensitivity to Prior Probability of Outcomes	The tendency to disregard probabilities or base rates when making a decision. For example, a clinician is insensitive to prior probability of outcomes if they do not consult base rates when deciding between the diagnosis of schizophrenia and schizoid personality disorder and instead relies on representativeness.	Tversky & Kahnemann (1974)
Overconfidence	The tendency to believe that you are above average in an ability or performance. For example, clinicians may be overconfident about their ability to diagnosis depression, which could lead to misdiagnosing a client with depression because another disorder may be more appropriate.	Moore & Healy (2008)
Primacy Effects	The tendency to unequally weigh information about a situation or person, particularly as information presented earlier carries more weight than information presented later.	Kruglanski & Freund (1983)
Representative Heuristic Biases	The usage of a minimal number of experiences to judge an entire group. For example, clinicians assuming the patients they have seen with schizophrenia represent all individuals with schizophrenia.	Kahneman, & Tversky, (1974)
Sunk Costs	The tendency to continue with a line of inquiry, method, or decision despite contrary evidence because of the effort and time invested.	Arkes & Blumer (1985)

---

## APPENDIX B

### EXAMPLE OF THE FULL PROCESS OF THEMATIC MAPPING

#### Final Case Conceptualization (Phase IV):

Jane is a White, 55-year-old, heterosexual woman living low socioeconomic conditions in a rural Texas. Jane was born and raised in Texas and is fully acculturated and assimilated to her surrounding culture. She does not identify with any religion and has no stated physical disabilities other than recurring lifelong depression and anxiety. Jane recently finished her Ph.D. and is currently working part-time at a local university. Jane is seeking therapy due to her recurring lifelong depression, which has particularly worsened since she graduated from her doctoral program and is now preventing her from seeking full time employment (something that also prevents her from obtaining adequate health insurance). She is also pursuing services due to an inability to establish intimate, meaningful relationships and unprocessed feelings related to her divorce. Overall, Jane says she is “stuck” in life.

Jane cited a past history of trauma within her childhood family unit, which was largely comprised of her grandparents—Daisy and Bill—and Jane’s siblings; she did not report knowing her biological parents. Jane experienced physical and emotional abuse from Daisy on a near daily basis, but was frequently sheltered by Bill. Unfortunately, Bill’s favoritism for her led her to be ostracized by her siblings, with whom she continues to report poor relationships with. Jane was particularly impacted by Daisy’s death during her late childhood and Bill’s remarriage to another abusive figure in Jane’s adolescence. This caused Jane to marry young, at the age of 17, to Dale who was a fellow member of her Christian church. This allowed Jane to rapidly move out of her abusive household while maintaining the approval of her family and church, which held to traditional gender and cultural norms. Early in their marriage, Dale revealed many abusive qualities as well, including verbal abuse, guilt trips, condescending statements, and occasional physical abuse. Jane had three children with Dale, but left her household when they were each in adolescence due to her request for a separation and divorce from Dale. At this time, Jane also left her church and became atheist; she cited feelings of judgment, guilting, and isolation from her church members as an additional result for her departure. This separation led prompted her to pursue a higher education that defied the traditional norms set by her family and also gave her a way to stave off finding full-time employment.

Jane states and exhibits several continuing behavior patterns, including recurring feelings of guilt, shame and inadequacy, difficulty in establishing healthy and intimate relationships, continued feelings of depression and anxiety, continued engagement in

relationships with abusive figures, and low self-esteem. Jane also exhibited frequent negative self-talk and self-defeating behaviors during our session and past episodes in Jane's past, including statements like she "shouldn't" be stuck or depressed and that she must strive to be "completely happy." She was also often avoidant and elusive when talking about her childhood experiences with trauma. Jane exhibited dependency behaviors on other people around her as well, including friends and Dale, from whom she occasionally took money from. Currently, Jane does not report having any close friendships, either now or at many other points in her life.

Jane's avoidant behaviors of meaningful relationships and processing past painful events, in addition to her recurring feelings of guilt and shame, may be rooted in her past abusive encounters with Daisy and Dale. This avoidance possibly feeds into creating feelings of isolation in Jane that results in recurring and persisting negative affect, even in the absence of an abuser. This is particularly evidenced by Jane's self-defeating and "stinking thinking" thoughts. Jane's "stuck" feeling possibly stems from internalization of the constant criticism she received from her early childhood caregivers whenever she would assert herself in making or attempting a new task. Overall, Jane is very hard on herself after a lot of people have already been hard on her across her lifespan. In this way, Jane is similar to a punching bag, in that she is always subject to abuse in some way, and a puncher, in that she also exerts self-abuse even when no abuser (such as Dale and Daisy) are present. Jane's current complaint of severe and recurring depression, suicidal ideation, anxiety, and feeling "stuck" are likely rooted in unprocessed trauma. This residual trauma is likely feeding into the lack of confidence, low self-esteem, and fear or criticism that is preventing Jane from seeking full-time positions. Jane's inability to move forward and establish meaningful relationships likely stems from a needed confrontation of past abusers or events.

*The three subsequent pages are Phases I, II, and III for this case formulation, respectively.*

Client Cultural Characteristics	Client Complaint	Possible Premature Interpretations
<ol style="list-style-type: none"> <li>1. Caucasian, does not closely identify with any traditional cultural practices associated with her race</li> <li>2. Female</li> <li>3. Heterosexual</li> <li>4. Currently low-SES; grew up middle-SES</li> <li>5. Middle-aged</li> <li>6. US is country of origin; English is native language</li> <li>7. Fully assimilated/acculturated to local surrounding culture</li> <li>8. No stated physical disabilities</li> <li>9. Has SPMI</li> <li>10. Atheist, was raised Christian but left church after requesting a divorce from her husband; dislikes/distrusts religious bodies</li> <li>11. Grew up/lives in rural town; faces some geographic health disparities</li> <li>12. Has PH.D.</li> <li>13. Individualistic values</li> <li>14. Family advocated for strict, traditional gender norms—early marriage, no encouragement for higher education or occupation for women</li> </ol>	<ol style="list-style-type: none"> <li>1. Severe and recurring depression, suicidal ideation, anxiety attacks, and “feeling stuck.”</li> <li>2. Has PH.D. but is too anxious to pursue a job that matches her qualifications, which makes her frustrated/angry with herself</li> <li>3. Also has poor health insurance as a result of her current part-time teaching job, has difficulty seeing/affording a psychiatrist and medication for depression</li> <li>4. Hasn’t processed her divorce</li> <li>5. Can’t move forward</li> <li>6. Wants an intimate romantic relationship but hasn’t been able to be close with anyone across her lifespan, including her ex-husband</li> </ol>	<ol style="list-style-type: none"> <li>1. Major Depressive Episode, severe</li> <li>2. Anxiety Disorder NOS</li> <li>3. Trouble adjusting to life outside of graduate school</li> <li>4. Adjustment Disorder?</li> </ol> <p>Next step: Gather information on Jane’s behaviors and episodes</p> <div>Phase I</div>

Notable Life Episodes	Notable Behaviors	Basic Patterns/Themes ( <i>Episodes+ Behaviors+ Cultural Consideration</i> )
<ol style="list-style-type: none"> <li>1. Acting as a childhood caregiver</li> <li>2. Prolonged history of verbal and physical abuse from her caregiver—grandmother, Daisy</li> <li>3. Daisy’s death</li> <li>4. Bill’s (grandpa) favoritism for Jane and protection of her in several of Daisy’s abusive episodes</li> <li>5. Bill’s remarriage to another abusive figure after Daisy’s death and his premature death</li> <li>6. Emotionally damaging moments related to her siblings’ ostracism because of Bill’s favoritism</li> <li>7. Jane’s rapid move out of her childhood home at 17</li> <li>8. Jane’s marriage to Dale and subsequent divorce</li> <li>9. Birth of her children</li> <li>10. Leaving her children when she left her husband</li> <li>11. Decision to leave her Christian church and community</li> <li>12. Attainment of her college and doctoral degrees</li> <li>13. Drop to a low socioeconomic bracket following her divorce</li> <li>14. Loss of health insurance.</li> </ol>	<ol style="list-style-type: none"> <li>1. Repeated engagement in relationships with abusive figures</li> <li>2. Feelings of guilt and shame</li> <li>3. Recurring low self-esteem</li> <li>4. Avoidance of meaningful relationships</li> <li>5. Avoidance of confronting painful life events or abusive figures</li> <li>6. Continued experience of depression and anxiety</li> <li>7. Intermittent dependency on others</li> <li>8. Negative self-talk and self-defeating thoughts, including inadequacy for failing to complete something “perfectly,” minimization of noteworthy accomplishments, rumination over perceived failures, and harsh self-criticism for feeling depressed and anxious</li> </ol>	<ol style="list-style-type: none"> <li>1. Avoidance tendencies, guilt and shame, recurring engagement in abusive relationships may be spurred by her recurring life “episodes” of verbal abuse by core family members.</li> <li>2. Avoidance creates an isolation for Jane that results in recurring and persisting negative affect, even in the absence of an abuser.</li> <li>3. Jane’s “stuck” feeling stemmed from her internalization of the constant criticism she received from her early childhood caregivers whenever she would assert herself in decision making or attempt a new task.</li> <li>4. Jane is hard on herself all the time! After a lot of people have already been hard on her!</li> </ol> <div data-bbox="1682 1235 1829 1308" style="border: 1px solid black; padding: 5px; text-align: center;"> <b>Phase I</b> </div>

## Phase II

### Overall Theme/Metaphor

Jane is a Punching Bag: She has always been the victim of abuse at some point in her lifespan, whether from her caregivers, siblings, judgment from her church members, or husband. This instilled passivity and "paralysis" behavior pattern in Jane due to a constant anticipation that abuse was right around the corner, a fear of confrontation and assertiveness, and a lack of understanding of appropriate self-defense. This behavior pattern is largely what is preventing her from attaining healthy romantic relationships and friendships, as well as achieving a job that matches her qualifications.

Jane is also a Puncher: She "took up the gloves" and started beating up on herself in the absence of an abuser to perpetuate her norm of being abused; this resulted in her behavior patterns of self-defeating thoughts, self-criticism, and guilt for not being able to handle her life stressors better. This also inhibited her in her job search, which kept her from attaining the health insurance and resources she needs.

### Sub-Theme: Throwing the Game

*Explanation:* Jane noted that she did not have the freedom or ability to confront her abusive grandmother without facing severe punishment, which was replicated with Dale, as the traditional familial structure encouraged by their church emphasized his leadership in the family over Jane. As Jane's surrendering behaviors became increasingly maladaptive as she grew older, she continued to surrender easily to such abusive figures and struggled to fight for her emotional safety. As a result, she learned to "throw the game" and concede to abuse regardless of consequences. This also resulted in a lack of cognitive understanding of her compliance, evidenced by her difficulty in defining the terms "avoidance" and "confrontation."

### Sub-Theme: Inescapable Boxing Ring

*Explanation:* Jane continued to feel the lingering feelings of abuse even after she physically left an abuser. This often manifested itself in negative thinking patterns, personal guilt trips, "should" statements, personal minimization of her own accomplishments, a diminishment of the severity of her abuse, and frequent self-criticisms. This behavioral pattern held serious implications for Jane's wellbeing: Her constant self-ridicule only added to the bruises inflicted by her previous abusers, which also left her vulnerable for falling into new abusive relationships. She had yet to be able to leave the boxing ring of abuse.

### Sub-Theme: Terror Outside the Ring

*Explanation:* Jane's departure from her established patterns of behavior, regardless of their self-defeating consequences, also demanded that she abandon her comfort in the predictability of abusive relationships in favor of unpredictable, yet potentially positive relationships. She also expressed a lack of certainty that she was capable of maintaining a healthy relationship even if she did attain more positive behavior patterns. This made her behavior pattern of avoidance a secondary gain.



Cause (Triggering Event)  
Jane's past history of abuse and isolation from healthy relationships enforced passivity, confusion about how to be assertive, and avoidance, which elicited recurring emotions of guilt, low self-esteem, and depression.



Theme + Sub-themes  
  
Punching Bag and Puncher



Consequence  
Now an adult, Jane is incapable of establishing healthy relationships with others, likely believes that she can't or shouldn't move on from past abusive relationships (incl. her marriage supported by previous cultural norms), and prefers to maintain the "norm" of an abusive environment by beating up on herself in the way her abusers did.

**Phase  
III**

**Presenting Client Complaint**  
*How is the client complaint explained by the cause, theme, and consequence?*

1. Jane's current complaint of severe and recurring depression, suicidal ideation, anxiety attacks, and "feeling stuck" are likely rooted in unprocessed trauma that she continues to replicate in all her relationships and within herself.
2. Jane's lack of confidence, low self-esteem, and fear of criticism that she learned from her childhood are likely contributing to her anxiety in pursuing a job and health insurance.
3. Jane's feelings of being unable to "move forward" or process her divorce likely stems from a needed confrontation of past abusers/events. This also hinders her from achieving the kind of intimacy she claims to want.

**Preliminary Treatment Recommendations:**  
Build the alliance, empathy/unconditional positive regard, introduce techniques that process these past issues, as well as techniques that will allow Jane to function better in the here-and-now. Look for possible confrontation exercises.

APPENDIX C

PHASES I-III FOR THE THEMATIC MAPPING WORKSHOP

Client Cultural Characteristics	Client Complaint	Possible Premature Interpretations
1.	1.	1.

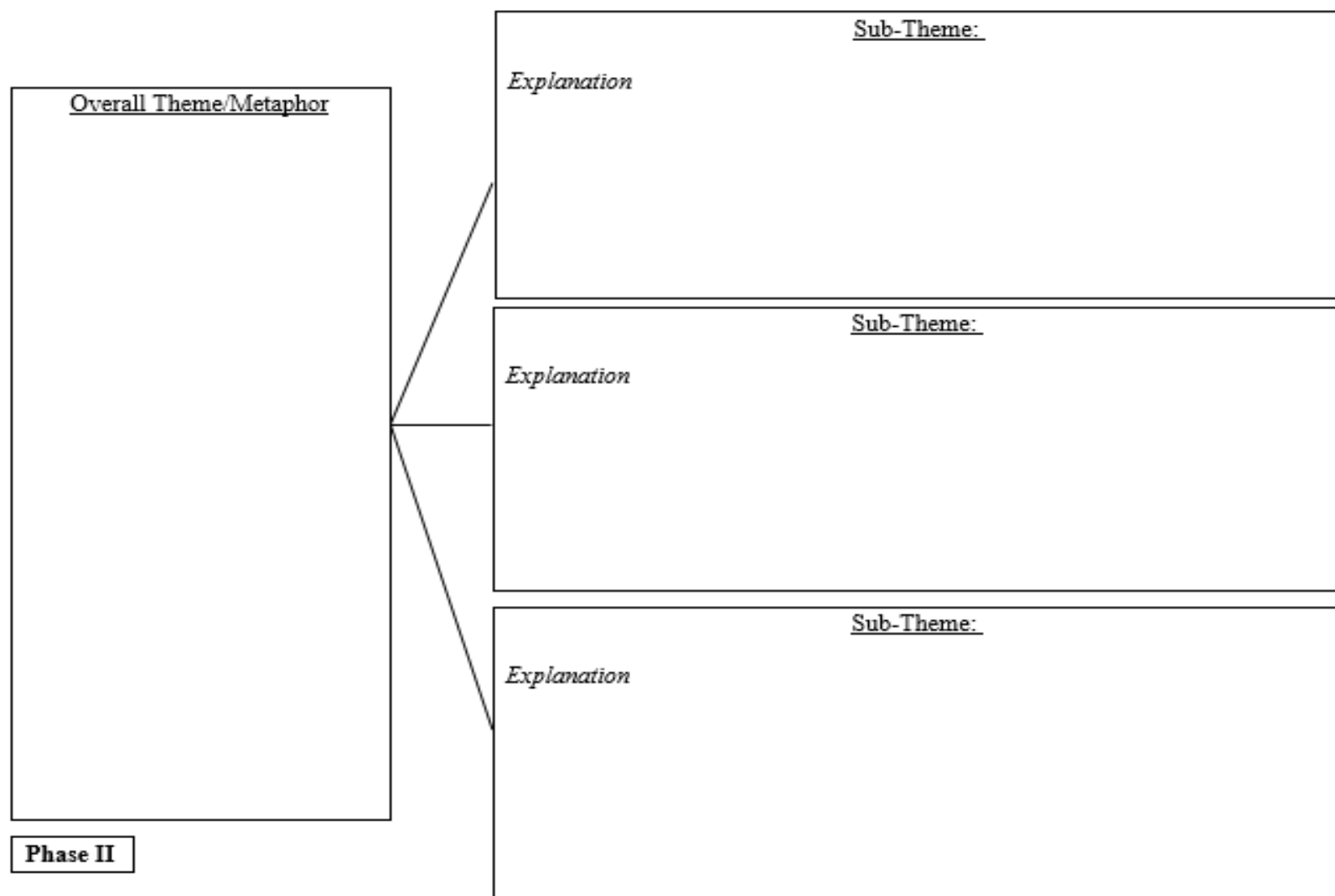
NUMBER YOUR RESPONSES

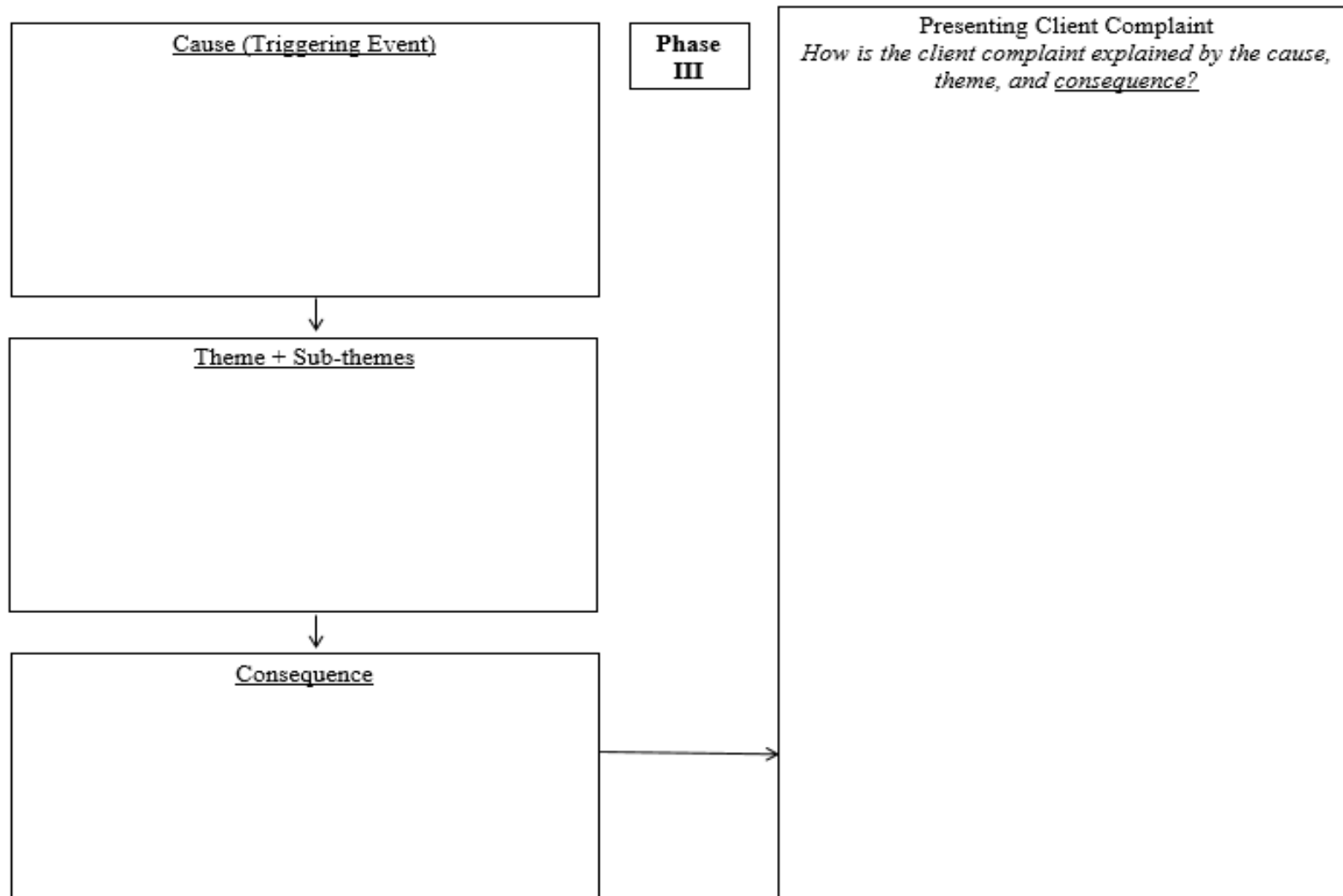
Phase I

Notable Life Episodes	Notable Behaviors	Basic Patterns/Themes <i>(Episodes+ Behaviors+ Cultural Consideration)</i>
1.	1.	1.

**NUMBER YOUR RESPONSES**

**Phase I**





## APPENDIX D

### WORKSHOP HANDOUT: ALTERNATIVE METAPHORS FOR “JANE”

Jane is a Stale Dill Pickle	Jane is an Old Parking Garage	Jane is an Arthritic Kangaroo
Jane’s history of trauma has filed her with bitterness to the point where it is difficult for her to have a healthy relationship with healthy others. In this way, she is <b>“Trapped in the Pickle Jar”</b> with other unhealthy people and is incapable of getting out on her own. This makes her more bitter and saddened, especially as she has always been <b>“Sealed In”</b> an unhealthy environment since birth. Jane is emotionally and psychologically stuck, which also prevents her from <b>“Smashing the Jar”</b> and escaping to a healthier life. However, this trauma she keeps reliving has also enervated her “bite” as a pickle, instead leaving her limp and stale.	When Jane was a child, her abandoning mother drove her into an old parking garage that is symbolic of Jane’s grandmother’s abusive home. Jane hasn’t ever had the <b>“Right (Monetary) Change”</b> to afford to exit the garage of emotional abuse ever since. This is because this change—AKA only positive steps she has taken for herself to make her life better has been robbed by other abusers in her life, such as her ex-husband, who has always belittled her. Jane is <b>“Out of Gas”</b> in being able to fight back at this point due to being a chronic victim and doesn’t possess the emotional resources to <b>“Ram the Gate”</b> that is keeping her trapped in recurring distress and depression.	Jane was a happy young girl for a brief time in her life, typically <b>“Jumping with Joy”</b> at the chance of seeing her grandfather. However when he died and Jane was left alone with her abusive step-grandmother, she quickly lost her ability to enjoy life. Her abuse was like a <b>“Jumping Weight”</b> that inhibited her from enjoying life and moving on to healthier places. This particularly led her to marry Dale despite his abusive tendencies—she didn’t have the emotional resources to <b>“Hop to Safety.”</b> Jane has now jumped on, but to an isolated environment. Her emotional joints are riddled with emotional “arthritis,” which makes it painful and exhausting to confront past trauma. This is why Jane is “paralyzed.” She is in too much emotional pain to move and doesn’t know how to release the weights that keep her down.

Jane is the Punching Bag and Puncher, but she could also be.....

What other metaphors for Jane can you think of?

How about sub-themes, noting that the sub-themes also directly related to Jane’s main theme/metaphor?

## APPENDIX E

### FORMULATION QUALITY RATING SCALE FROM THE CASE FORMULATION CONTENT CODING METHOD

Formulation Quality Ratings: Formulation number: \_\_\_\_\_

#### 1. Complexity:

0	1	2	3	4
Insufficient Information Complexity	Very Little Complexity	Little Complexity	Moderate Complexity	High

Rate the overall complexity of the formulation. Highly complex formulations take into account several facets of the person's problems and functioning, integrating them into a meaningful presentation. Note: Disregard the Elaboration or specificity of the language.

#### 2. Precision of Language:

0	1	2	3	4
Insufficient Information Precision	Very Little Precision	Little Precision	Moderate Precision	High

Rate the overall precision of the language used in the formulation. Highly precise language is used to construct a formulation that is tailored to a unique individual. Language with little precision is used to construct a general formulation that could apply to almost anyone (Barnum effect). Do not be overly influenced by jargon that the clinician does not explain. Note: This refers only to the quality and specificity of the language, not the quality or the amount of information covered.

#### 3. Overall Coherence:

0	1	2	3	4
Insufficient Information	Very Little Coherence	Little Coherence	Moderate Coherence	High Coherence

Rate the extent to which the formulation seems to "hang together," providing an internally consistent account of the individual's problems. One way of judging

coherence is attempting to summarize the formulation in a short sentence

4. A priori Structure: Does the clinician seem to be following an a priori structure, independent of the particular patient, that helps organize the clinical information?

(Disregard breaks in the systematic process imposed by the interviewers questions.)

yes (1) \_\_\_\_\_

no (2) \_\_\_\_\_

5. Goodness-of-fit to formulation:

0	1	2	3	4
Insufficient	Very Little	Little	Moderate	High
Information	Consistency	Consistency	Consistency	Consistency

Rate the extent to which the treatment plan is consistent with the formulation, that is the extent to which it addresses the issues raised in the formulation?

6. Elaboration of treatment plan:

0	1	2	3	4
Insufficient	Very Little	Little	Moderate	High
Information	Elaboration	Elaboration	Elaboration	Elaboration

Rate how well the clinician explains or elaborates on the treatment plan.



APPENDIX F

SYSTEMATIC PROCESS RATING SCALE FROM THE  
CASE FORMUALATION CONTENT CODING METHOD

RATING SYSTEMATIC PROCESS

How much evidence exists that this clinician is following an a priori scheme for developing his/her case formulations? That is, to what extent does the clinician seem to be using a pre-set and systematic structure for organizing clinical information that is evident across the six formulations and is relatively independent of specific patient information?

**Systematic Process:**

**1**  
**No Evidence**  
**Or Nearly**  
**No Evidence**

**2**  
**Little**  
**Evidence**

**3**  
**Moderate Degree**  
**of Evidence**

**4**  
**Clear and**  
**Convincing**  
**Evidence**

**5**  
**Evidence**  
**Beyond a**  
**Reasonable**  
**Doubt**

**Considerations:**

1. Give the highest score your judgment permits, in light of the evidence.